This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

THE

BIRMINGHAM

MEDICAL REVIEW:

A MONTHLY JOURNAL
OF
THE MEDICAL SCIENCES.

EDITED BY
DOUGLAS STANLEY, M.D. EDIN., M.R.C.P.,
AND
JAS. W. RUSSELL, M.D. CANTAB., M.R.C.P.

VOL. XLIX.
JANUARY TO JUNE.

LONDON:
H. K. LEWIS, 136, GOWER STREET, W.C.
BIRMINGHAM:
HALL AND ENGLISH, 36, UNION STREET.
1901.

BOSTON MEDICAL LIBRARY
APR 15 1902

CANCELLED
APR 15 1902
E. H. B.

10

CONTENTS.

PAGE
A—Armitage, J. Auriol, M.D., 65
Abscess, Extra-dural 169
,, Localised, Clinical Aspects of 129
Actinomycosis of Face and Neck ... 37
Albuminuria, Blood Origin of 233
Albumosuria 233
Amaurotic Family Idiocy ... 302
Anæsthesia, Asphyxial Factor in ... 255
Aphasia, Motor 243
Appendicitis 129, 310
Arm, Myxoma of 310
Ataxia, Friedreich's 171

B—Barling, Gilbert, M.B., F.R.C.S. 365
Bed-Rest, Automatic 238
Bladder, Ulceration of 59
Blood Origin of Albuminuria 233
Blood Poisoning 173
,, Sugar in 229
British Medical Association, Organisation of 239

C—Calculi, Renal 170
Cancer of Stomach 46
,, of Uterus 284
Cancrum Oris 118
Charcot's Disease 40
Children, Tuberculous Affections in . 1, 39
Cirrhoses of Liver 52
Cocaine Anæsthesia 38
Congenital Defects of Skeleton ... 119
Consultative Institution 315
Coventry Provident Dispensary ... 99
Cyst, Ovarian 173
,, Parovarian 170

D—Deformities, Paralytic 125
Dermatology 62
Diabetes 223
Diarrhœa Deaths 120
Diphtheria, Clinical Aspect of... ... 202
Dissectors, Outlines for... 124

E—Emanuel, J. G., M.B., B.S., B.Sc. 337
Ear, Diseases of 245
Elbow, Excision of 39
Electricity in Gynæcology 58
,, in Lachrymal Strictures 306
,, in Lead Poisoning .. 65, 169
Eosinophilia 352
Epiphyses, Injuries and Diseases of 169, 175
Erythema Bullosum, Severe Case of .. 92
Eye, Diseases of 251, 300

F—Femoral Veins, Thrombosis of ... 173
Femur, Epiphysitis of 169
,, Separation of Head of 175
Fibroid, with twisted Pedicle 172
Fibroma of Ovary 174
Foods, and their Examination ... 184
Fractures 123
Friedreich's Ataxia 171

PAGE
G—Gamgee, Leonard, F.R.C.S., 129—Greenwood, F. R., M.D., 202—Godson, J. E., M.R.C.S., L.R.C.P., 219.
Gall Bladder, Rupture of 43
Gall Stones 43, 98
Gangrenous Intestine 114
Gastralgia, Diagnosis and Treatment of 193
Gastro-Jejunostomy 237
Gastro-Pylorectomy 308
Gastrostomy 38
Genito-Urinary System, Diseases of ... 54
Glycosuria 226
Gynæcology 58, 180, 182, 254

H—Heart Disease, Labour Complicated by 84, 169
Histology, Normal 188
,, Pathological 176, 186
Hodgkin's Disease—Pseudo-Leukæmia—Lymphadenoma 350
Humerus, Deformity of... 175
Hydronephrosis 115
Hygiene 127

I—Influenza, Eye Symptoms in ... 300
Intestine, Gangrenous 114
,, Resection of 116
Iris, Cribriform 309

K—Kidney, Percussion of 232
,, with Double Ureter 243
Kyphosis 174

L—Lamb, William, M.D., M.R.C.P. 26, 76
Labour, complicated by Chronic Heart Disease 84, 169
Labour, Difficult... 248
Laparotomy 172
Lead Poisoning, Treatment of.. 65, 169
Leukæmia or Leucocythæmia 347
Leucocythæmia, with Albumosuria 233
Leucocytosis 354
Life Insurance, Medical Examination for 314
Liver, Cirrhoses of 52
Lymphatic Leukæmia 350
Lymphocytosis 354

M—Malignant Disease, Deaths from 239
Maltosuria 228
Myelocytes 335

MEDICAL ABSTRACTS—

Report on Renal and Urinary Diseases. By Professor Robert Saundby, M.D., LL.D., F.R.C.P. 223
Ophthalmology. By J. Jameson Evans, M.B., F.R.C.S. 300
Medicine, Past, Relics of 154
,, Practice of... 178, 189, 313
Myoma of Uterus 170, 237
Myxoma of Arm 310

PAGE
N—Nasal Obstruction, Diagnosis of 26, 76
Naso-Pharynx, Diseases of 245
Nephrectomy, Three Cases of... ... 115
New Inventions, Drugs, etc. 62

O—Owen, Edmund, F.R.C.S.. 1
Obstetrics 190
Ophthalmology 251, 300

ORIGINAL COMMUNICATIONS—

- Notes on Some Tuberculous Affections in Children. By Edmund Owen, F.R.C.S. 1
- Remarks on the Diagnosis of Nasal Obstruction. By William Lamb, M.D., M.R C.P. 26
- Treatment of Lead Poisoning by Electricity. By J. Auriol Armitage, M.D. 65
- The Diagnosis of some Forms of Nasal Obstruction. By William Lamb. M.D., M.R.C.P. 76
- The Management of Labour, complicated by Chronic Heart Disease By W. A. Potts, B A, M.D, M.R.C.S. 84
- A Consideration of the Clinical Aspects of Localised Abscess, resulting from Appendicitis. By Leonard Gamgee, F.R.C.S. ... 129
- On the Varieties and Treatment of Prolapse of the Uterus and Vagina. By Thomas Wilson, M.D., F R.C.S. 141
- Some Relics of Past Medicine and Surgery in this part of the Country By F. W. Willmore .. 154
- The Diagnosis and Treatment of Acute Gastralgia, with Notes of Four recent Cases. By T. Sydney Short, M.D., M R.C.P. ... 193
- The Clinical Aspect of Diphtheria. By F. R. Greenwood, M.D. ... 202
- The Treatment of Whooping-Cough. By J. E. Godson, M R.C.S., L.R.C.P. 219
- The Lower Uterine Segment and the Contraction Ring. By W. J. Smyly, M.D., F.R.C.P. and S.I. 321
- The Blood, from a Clinical Aspect. By J. G. Emanuel, M.B., B.S., B.Sc. 337
- Surgical Interference in Disorders of the Stomach. By George Heaton, M.A., M.B., F.R.C.S. .. 257
- Unguentum Ranunculi Ficariæ. By Sir James Sawyer, M.D., F.R.C.P. 281
- Cancer of the Uterus. By J. Furneaux Jordan, F.R.C.S. 284

Oxalic Acid in Urine 233

P—Potts, W. A., B.A., M.D., M.R.C.S., 84
Pathological Leucocytosis 355
Pancreatic Disease and Glycosuria ... 228
Paralysis, Combined 114
Pentosuria 228
Percussion of the Kidney 233
Phenyl-hydrazine Test 229
Physiology 312
Physiological Leucocytosis 354
Placenta Prævia 329
Prolapse of the Uterus and Vagina ... 141

PAGE
Prolapse of the Funis 328
Psychology of Sex 127
Pyelo-nephrosis 243
Pyloric Obstruction, Operation for ... 237
Pyonephrosis 115

R—Russell, James W., M.D., M.R.C.P. 361
Relics of Past Medicine and Surgery 154
Renal Diseases 223

REPORTS OF CASES—

- A Severe Case of Erythema Bullosum By T. Sydney Short, M D., M.R.C.S. 92
- Delayed Toxic Effects of Sulphonal. By E A. Sadler, M.D 298
- A Case of Suppression of Urine. By L. S. Tomkys, L.R.C.P., M.R.C.S. and James W. Russell, M.D., M.R.C P. 361
- Note on a Case of Double Intestinal Anastomosis for Double Artificial Anus in the small Intestine. By Gilbert Barling, M.B., F.R C.S. 365

REPORTS OF SOCIETIES—

- British Medical Association. Birmingham and Midland Counties Branch .. 37, 98, 168, 235
- Midland Medical Society, 40, 114, 160, 243, 308
- Kidderminster Medical Society 116, 310
- British Orthopædic Society ... 119, 174

Resection of Intestine 116
Retraction Movements of Eyeball ... 304

REVIEWS OF BOOKS—

- Anders, Text-book of the Practice of Medicine. Fourth Edition ... 189
- Beck, Fractures 123
- Butlin and Spencer, Diseases of the Tongue 56
- Cheadle, On some Cirrhoses of the Liver 52
- Cheyne and Burghard, Manual of Surgical Treatment. Part iv. ... 189
- Colbeck, Diseases of the Heart ... 372
- Cornil et Ranvier, Manuel d'Histologie Pathologique 176
- Cowen, Electricity in Gynæcology... 58
- Da Costa, Modern Surgery... 253, 311
- Duane, Dictionary of Medicine and the Allied Sciences 313
- Dunham, Normal Histology .. 188
- Durck, Atlas and Epitome of Special Pathologic Histology 186
- Ellis, Studies in Psychology of Sex 127
- Fenwick, Ulceration of the Bladder 59
- Fuller, Diseases of the Genito-Urinary System 54
- Gardner, The Asphyxial Factor in Anæsthesia and other Essays ... 255
- Grandin, Text-book of Practical Obstetrics 190
- Green, Medical Examination for Life Insurance 314
- Harrison, Vasectomy relative to Prostatic Disorders and Catheter Life 122
- Herman, Difficult Labour 248

—for of all such persons I imagine your Society to be composed—and that it should at least be of a practical nature.

Keeping these points in view, I thought that the consideration of certain of the local tuberculous affections of childhood might be made to serve for the occasion. It is a subject that is interesting to every class of practitioners, and it is one, moreover, relating to a disease which, though generally taking a smooth course, at times occasions great anxiety.

It is not my hope or endeavour to say anything new on the subject : some of you may rejoin, indeed, that there is nothing new that can be said—that it is already worn threadbare, or that it has even become tattered from much handling.—Well, if it has become so ragged as this, there will, at any rate, be the more fragments for me to catch at, and possibly readjust.

First, I would like to make some remarks upon the subject of enlarged cervical glands :—A child is brought to the family doctor because she has some glandular swellings in her neck ; and before he has half finished examining them, the mother anxiously thrusts at him the question which is uppermost in her mind, namely, as to whether they are "tuberculous" or not. If the doctor is of what is commonly, and sometimes disrespectfully, termed "the old school," he laughs at the mother's anxiety, and replies, "No, of course not!" If he belongs to what its members sometimes boastfully consider as the "modern school," he says, "Yes, they are undoubtedly tuberculous," making no attempt whatever to soften this harsh expression of his opinion. And if he is a member of neither of these schools, but belongs to that large class of members of our Profession who not only know their work but in the practice of it are considerate; who, whilst possessing a good working regard for truth, have also a considerate feeling for anxious and apprehensive mothers, he does not commit himself. But he says in a cheerful tone, "Tuberculous ; *who* said that they were tuberculous ?"

Though he asks it cheerfully, his tone is such that the question cannot be repeated nor his answer rashly handled. He has given, as it were, "a miss in balk," and the mother cannot score.

As a matter of fact, this doctor did not know for certain if the enlargements were tuberculous or not; and I suspect that the answer which the mother gave as to who had actually called the disease "tuberculous," helped him to shape out in his own mind a pathological theory for the case. Thus, if the name which she supplied was that of a member of the "modern school," he said to himself, "Well, I expect that it is tuberculous; but there is no hurry. Time will show; and in the meanwhile it is no use making everybody anxious."

Personally, I do not think that it is possible for a surgeon—or for anybody else, unless it be a very young practitioner—to know in every case whether the lymphatic enlargement is tuberculous or not. And even when a surgeon has seen a case on several occasions he cannot always be sure. The older I get the less sure am I about many things—but I must confine my remarks to-day strictly to the subject of this little informal Address. I have made so many mistakes, and have known so many better men than myself fall into errors of diagnosis, sometimes in my company and sometimes out of it, that now and then I find myself saying, in answer to some direct professional question, "I do not know." I have got to that position in life's walk, as well as in life's work, that I feel justified in indulging in an occasional agnosticism in professional subjects; the young practitioner dare hardly do it, however. He is expected to *know*; and he generally does.

A few years ago I was asked by Dr. Davson, of Maida Vale, to see a patient in consultation with him, an engineer, about twenty years of age, who had a gland slowly enlarging in that common situation for enlarged cervical glands, the superior carotid triangle. The opinion which I formed was that the enlargement was tuberculous, and that, if it did not quickly subside under the treatment prescribed, it ought to be removed, lest it should infect the neighbouring glands or break down and become septic. Indeed, the gland next to it was already enlarging. I saw the patient again in about ten days, and finding the gland rather larger, and knowing that he was very anxious to get back to his work in South Wales, I advised the prompt removal of the two glands. This was done, and on making a section of them afterwards, and examining them with the naked eye, I saw no reason for doubting the correctness of the diagnosis or the expediency of the radical treatment which we had adopted. The wound healed at once, and the man went back to work. But in a few months he came up again with a fungating mass at the site of the wound, and with a sarcomatous invasion of glands upon both sides of the neck. The condition was passed all surgery, and long before the first anniversary of the operation he died of sarcoma.

There may have been, of course, plenty of surgeons who could have diagnosed the original enlargement as "sarcomatous" at first sight, or, at any rate, after a lapse of ten days. I could not, however, and I did not.

Then I look back upon the case of a boy who was, years ago, under my care in the Great Ormond Street Hospital with a considerable glandular enlargement on one side of the neck, which I treated by a very radical operation. And though after this he was better for a time, he fell a victim later to general lymphadenomatosis.

In neither case did the operation do any harm; indeed, in the first case it was quite the right thing, only, unfortunately it was not resorted to early enough.

But what lamentable failures in diagnosis! No surgeon now ever boasts of his being simply a "practical" man, and of his lightly esteeming diagnostic acumen. I can remember the time, however, when one would scarcely have been ashamed of such a boast! So long as one was *practical* it did not then seem to matter about his not having much pathological or theoretical knowledge.

ACUTE AND CHRONIC TUBERCULOUS DISEASE OF THE KNEE-JOINT.

One of the commonest manifestations of tuberculosis in children is inflammation of the knee-joint. But there is an enormous difference in the way in which the disease may enter upon and run its course. Sometimes it begins forthwith in a very acute form and ends disastrously, though it may clear up entirely or tail off into the chronic variety. At other times the baccilli make a leisurely attack upon the joint whose vitality has been lowered by an injury, waiting apparently for three, or six months or more—so far, at least, as the surgeon knows—though it is quite possible that the germs have been there for a considerable time before the occurrence of symptoms gave any evidence of their presence. The inflammation generally comes on after a blow or a sprain, and when it quickly supervenes on an injury, who is able to say exactly when infection by the bacilli has actually taken place? Who, in some of these acutely-beginning cases can say whether the affection is a simple traumatic or a tuberculous synovitis? I, at any rate, can not.

Here is an instance of an acutely-beginning case:—

In November, 1888, I saw a little girl at the Great Western Hotel, who had been sent up from Worcestershire for my opinion and advice. This is an extract from the note which the family doctor, Mr. Mark Style, wrote to me: "I am sending you a case of synovitis in a strumous child six years of age. It commenced after a fall four weeks ago. I saw it the following day, and have given the joint absolute rest ever since, having it on a back splint. There is little pain, but it looks like 'going wrong.' The child is losing ground, and the temperature goes up at night to 100°. There is a history of an enlarged gland in the father, which was excised when he was a boy, but no further tuberculous mischief on either side."

The knee looked so extremely unpromising that Mr. Style ended his letter by remarking that if I proposed doing any operation on it at any future date he would like to have the opportunity of coming up to see it.

The affected knee, the right one, was an inch more in girth than the left. The child was of the pink-and-white sort, and she looked quite ill. Her father was physically somewhat delicate, but he had plenty of *mental* vigour, for he placed entire confidence in his medical men. This, in my experience, is somewhat unusual—especially in the clergy, to which body of men he belonged. He said that whatever we agreed upon he would follow out, and fortunately being independent of his profession, he was able, in accordance with our advice, to take the child away from the clayey soil and hanging mists with which the vicarage was surrounded, and place her under the care of Dr. Raven, at Broadstairs. Thus the change for this little girl was very complete: she went from a damp, cheerless parish to a sheltered seaside place near the North Foreland which seems to catch all the sun that shines. The arrangement was, moreover, that she was to have a room facing south, and to be in the open air all day long.

Before sending her to the seaside, however, we had a pair of lateral splints of leather moulded upon her leg. I would call your particular attention to these splints, for I regard them as being admirably adapted for the purpose. They are made of undressed cowhide, that is to say they are of sole-leather which has not been impregnated with oil. It is treated by being soaked in a pail of hot water to which some vinegar has been added, and thus it becomes as soft as wet brown paper. In this condition it is moulded on the limb under a roller bandage. In a few hours it is dry, hard, and stiff, and it is then taken off and trimmed, lined with chamois leather, and fitted with webbing-straps and buckles. I suppose that any handy man could make such splints; occasionally my dressers make them in hospital work, but in private practice they are made for me by Messrs. Spratt and Brooke, of New Bond Street. Poro-plastic felt might serve for the purpose, as also might lateral splints of plaster of Paris, but I have a great belief in the truth of the adage that there is nothing like leather. Of course the child was kept absolutely off her feet. By way of medicine, she was ordered cod-liver oil and malt, and some syrup of iron phosphate. I heard from Dr. Raven from time to time, and always to the effect that the knee was improving, and that the child was putting on weight. This putting on of weight by a patient whom we are treating for pulmonary, peritoneal, osseous, articular, or cutaneous tuberculosis, we all recognise to be an extremely valuable sign. It means, I take it, that our patient is absorbing and storing up more nutriment than he was doing before, thereby improving his physical energy, and the better arming himself for carrying on a successful warfare against the attack of the bacilli. A tuberculous patient who is losing weight is, practically, a starving patient, for though he is taking food he is not storing any up—or its equivalent energy. He is like the man who, though depositing money in the bank, is for ever drawing it out by cheques. The prospect is cheerless, and at last he finds the balance is on the wrong side of his pass-book.

We take it as a bad sign when the man beyond middle age persistently, and for no apparent reason, loses weight. We take it as a good sign when the weedy, tuberculous child is steadily putting it on.

Some of these tuberculous patients cannot store up food—energy, that is—because they are unable to digest or even to eat. For such an individual a change may work wonders. Change is the beginning of the Nordrach treatment, and I believe that very little advantage could be obtained from any modification of the Nordrach treatment which did not begin with this thorough change.

I am quite sure that it is well to start the treatment of most of these cases with a thorough *change* whenever possible. We all know what a good thing a change is for ourselves as we get stale at our work, and for tuberculous children it is still more effective. One sometimes hears about the Nordrach treatment being "carried out at home," but I cannot believe that it is thus likely to be in any marked degree efficacious. The patient should always be got away from the old familiar house and its familiar occupants, from its stuffy, or, at any rate, familiar living-rooms and bed-room, and from the familiar cookery which, though probably quite wholesome, has of late failed to create an appetite or to nourish. I remember a patient once saying to me —a man who fared sumptuously every day—that he was always glad when his wife had a new cook, because the bacon at breakfast was then sent up in a different way, and was in consequence more appetising. Change is good. And yet we are sometimes chagrined because our patients choose to change their medical man ; though we never express so much as surprise when it is in favour of ourselves that such change is made—nothing, indeed, could be more natural or appropriate.

Most of us have had personal friends who, tired out with professional work—loaded with the toxines of the wear and tear of practice—have, to the greatest advantage of themselves, their household and their patients, spent a short month at Homburg. Have we known some of them order abundant supplies of the salts of the Elizabeth-brunnen subsequently to be sent home in order that they might continue the effective treatment after their return to England? Well, if so, was it the same thing? No, certainly not! It was the change, the unfamiliar everything that had worked the miracle, and I have a shrewd suspicion that if our friend when at Homburg had got up at six o'clock every morning and, going down to the band, had taken small doses of an Epsom salt solution out of his own flask instead of a drink of the water of the country, it would have done just as well, so long as he rested his brain and his stomach. But heaven forbid that I should suggest that the 75 per cent. of sodium chloride and the 10 per cent. of carbonate of lime which the Elizabeth-brunnen contains, are in themselves destitute of therapeutic value! Few of us would care to write them in a prescription, however!

Change is needful for healthy medical men as well as for tuberculous patients. The mechanic does not need change; he gets nightly rest for his muscles, and that suffices; but it is poor economy for the medical man, who is perhaps at work by night as well as by day, to try and do without a change. I think also that the patient does not come off particularly well when his medical attendant has worked himself *stale*. I have a friend in practice in a small town in an agricultural county who, like the rest of us, has periodical cravings for a holiday, and when he gets it he finds that he obtains most value for it if he spends it in some bustling city. This is his change. He says that he must be amongst large buildings and crowded streets. At the present moment he is in Brussels.

Similarly, when the members of an important Branch of the British Medical Association have long been in the habit of listening to high-class Addresses on abstruse subjects, it may be good for them at last to have to listen to a Paper in commonplace language, and on an every-day sort of subject, like that of *children and tuberculosis.*

I am fully aware that I have wandered from the case of that girl with the tuberculous knee. But while I have been digressing she has been making steady progress, increasing in weight and improving in general appearance.

As soon as the acute symptoms passed off we had her fitted with a Thomas's knee-splint, and let her walk about with a patten on the other foot.

On and off she was under my care for six or eight years; and for the purpose of this Paper I wrote to her father last month for a recent report of her. This is what he says:—

" She is now nearly eighteen, and, so far as one can see, she is absolutely well. She can dance, play tennis and walk any distance. The knee is just a little twisted (as you said it would be) but no one would know this as it does not show in walking. The leg is not shorter. We still give her plenty of change taking her to the sea three or four times a year as a prevention."

As a contrast to acute tuberculous disease of the knee-joint (of which the case which I have just cited forms a good example) and about which there is, there must often be, indeed, a difficulty at first in saying definitely whether it is *tuberculous* or not, I will allude to a chronic variety in which the disease progresses very slowly, the child making little or no complaint. He walks with his mother into the consulting-room, and, but for a slight limp, it would be scarcely thought that there was anything wrong with him.

But on undressing him it is at once noticed that his thigh and leg are wasted, and that his knee is slightly bent. The joint is scarcely tender, but it is a little enlarged, and it resists any attempt at straightening. Possibly also the tibia is slightly everted. The mother assures us that there has rarely been any complaint, yet the joint is seriously affected. There is no difficulty whatever about the diagnosis, and the treatment is equally clear, but it may prove disappointing.

If the case is not going to do well, granulation-tissue will take the place of the sodden synovial membrane, and will, in its growth, destroy the articular cartilage and the subjacent bone. Every stage of this serious change may ensue quite quietly, without the presence of fluid in the joint-cavity, and certainly without the formation of any abscess. In due course the granulation-tissue spreading from femur into tibia is converted into bone—much as in the repairing of a simple fracture—and the joint becomes solidly synostosed. This is, surely, a very interesting form of tuberculous arthritis, and we sometimes stumble across its results when we are examining a patient for something else.—" Oh, that elbow ? " casually remarks a patient, " It has been stiff ever since I was a boy, but it has never hurt me. I am told that it got bad after I had the measles." And when we make a careful inspection of the neighbouring skin, there is no trace of its ever having been affected—not a pucker, not a scar, not a stain. The man is healthy enough now, perhaps, and perfectly sound except for that synostosed elbow. He is, indeed, an excellent specimen of an individual who has completely recovered from serious tuberculous disease—and without having received any *operative* assistance.

It is surely a comfort to be reminded every now and then by seeing such cases as this that a child with indisputable tuberculosis may get perfectly well if only he be given a chance !

Just now I was speaking about an acute synovitis of the knee-joint being quickly followed by tuberculous arthritis, and of the difficulty which attended the answer to the question as to the exact moment at which the bacillary invasion took place.

On the very day on which I write these remarks (November 19), a child died under my care in St. Mary's Hospital, whose clinical record has a close bearing on this matter, and as it still further lends itself to the subject of this Address, I shall give it to you somewhat fully:—

A boy of eight years was admitted to Crawshay Ward on Thursday, November 1st, 1900: the notes of the Clerk (Mr. Webster), show that on the previous Wednesday week, whilst he was about to sit down at school, he knocked his left knee against his desk. On the following Sunday it began to swell, and to pain him. At the time of his admission the knee was distended and the skin over it was hot. There was slight local tenderness, and he was unable to put his foot to the ground. A splint was applied and he was kept in bed. The knee steadily improved, but on 9th November he complained of headache; his face was flushed, and he had a slight convulsion. His temperature was 101·5°. On 12th, his lungs were examined with a negative result, and the Widal reaction for typhoid fever showed nothing. On 14th, the knee was down to the normal size, but the boy was wasting rapidly and was extremely restless. Acute tubercular infection from the knee was suspected. On 18th, his temperature rose to 103°, and his pulse was running at a great rate. The right eyelid was drooping, and there was some paralysis of the left arm. Next day he died.

The *post-mortem* examination showed engorgement of the cerebral vessels, and dilatation of the ventricles by a large amount of cerebro-spinal fluid. There were miliary tubercules about each Sylvian fissure, and there was also miliary tuberculosis of the lungs.

A few days after his admission into the Hospital, and when he was apparently quite well except for the tender knee, I had had him in before the members of my clinical class, and discussed with them the probability of the synovitis being tuberculous, and of the inexpediency of giving too definite an opinion in such a case against the theory of acute bacillary infection.

This certainly was an unusually rapid case. It runs thus :— On the morning of October 24th, the boy was at school apparently quite well, but he hurts his knee. On November 1st, he is admitted into Hospital with acute tuberculous synovitis of the knee. The bacilli are carried from the knee to the lungs and to the brain, and within four weeks of the hurt he is dead of secondary tuberculosis !

There are three diseases for which every member of our Profession should always have (to use a nautical expression) " his weather-eye lifting." The first is enteric fever. How often does it happen that an obscure and, for a while, unrecognisable affection with an irregular temperature proves to be an anomalous case of typhoid ? I give this as a broad sort of question without having either the knowledge fitting me, or the right authorising me, to attempt an answer.

The second comprises that indefinite mist of symptoms which might be taken to suggest inflammation of the anterior cornu of the grey crescent of a little child's spinal cord. It is the general practitioner who first sees such a case ; he is hurriedly called to it, and if he is not able to form a precise diagnosis he, not unusually, I think, gives a dose of grey powder. I confess that I do not know what he could better prescribe in the circumstances, but his treatment does not do much good. The infant weathers the storm, but it is still kept in its cot, and when, some weeks afterwards, the mother tries to make it put its feet to the ground, she finds that one of the legs is limp and useless. The same doctor, or not impossibly another, is called in and the diagnosis of *infantile paralysis* is then made.

Those who have been concerned in such a case will agree with me that a vast amount of unpleasantness is apt to arise in connection with it. But this is no concern of ours this afternoon, and I must hurry on to mention the third disease for which those who have much to do with children should for ever be on the look out—it is tubercular meningitis.

A practitioner is seeing a child two or three times a week who is laid up, for instance, with Pott's disease. He has had the child under supervision for six months, and he has regarded the case simply as one of disease of the spine, nothing less, nothing more, and he feels that it will so continue to be for many months yet. The mother notices that the child is getting thinner. What condition more natural for a child with spinal disease? "Does he take his food well?" asks the doctor, and to this a negative reply is given. Then the nurse casually remarks that he has been sick. Of course, if a child feels, or is sick, he cannot be expected to take his food well, and in such circumstances he must be expected to get a little thinner. What more natural?

I am not now going to hint at what I think is likely to be the nature of the prescription written, but I may, perhaps, be permitted to remark, without giving offence, that Sir William Jenner thought it incumbent on himself to say, "When you see a sick child, don't always think of grey powders."

If by chance a grey powder *was* ordered for the child whose imaginary case we are considering, it did no good; for though it may have opened the bowels it has not relieved a headache of which the child has now been complaining for several days.

I am not going on any longer with an enumeration of the symptoms as they arise, but will say, briefly, that tubercular meningitis is stealthily asserting itself, and that probably the child will die from it within a fortnight. And I think that, so so far as I have gone with the description of the onset of the disease, you will agree that the practitioner who does not keep his "weather-eye lifting" for this complication, is laying himself open to the risk of incurring an extremely unpleasant surprise.

The chief reason of a surprise occurring is that tubercular meningitis creeps in on the top of some other disease which was definite enough and serious enough to occupy the entire attention of the practitioner, and if I had not already committed myself to that nautical expression of the "weather eye," I think that I might have been tempted to take a few sentences out of the book of one of our youngest Generals, and build up a paraphrase on them with some such heading as this, "The importance of scouting in the practice of Medicine."

Tubercular meningitis is, indeed, a most peculiar and unaccommodating disease, and it very often pays but slight regard to the description given of it in the text-books.

I am inclined to think that the child in Fildes' pathetic and beautiful picture of "The Doctor" is just beginning an acute attack of meningitis. There is one thing quite certain, that the Doctor has not been able as yet to make up his mind about it. It is something quite out of the ordinary run of his practice, and he is evidently trying to think the case out. Whatever his decision may be as regards diagnosis, I trust that in the matter of treatment he will err upon the side of mercy, and cease to continue dosing the poor little patient from that large medicine bottle which is close at his elbow. If it turns out to be tubercular meningitis no medicine in the world will be of the least avail—not even grey powder.

And if medical treatment is unable to offer any prospect of relief in the treatment of tubercular meningitis, is surgical assistance likely to be of avail? Well, hitherto it has not achieved any trustworthy result. But we still have hopes for it. Tubercular meningitis is in its morbid anatomy and pathology closely allied to tubercular peritonitis, and I shall shortly call attention —and shall do it with some pride—to the good results which have attended the treatment of that disease by opening the abdomen. For though we may not know exactly how the improvement is effected, the fact remains that improvement does generally ensue after the abdomen has been opened.

Tubercular inflammation of the pia mater, and of its intracerebral folds, determines so great an increase in the amount of the cerebro-spinal fluid that the ventricles become acutely distended, and the entire surface of the brain is compressed.

For the relief of this compression Quincke has suggested the withdrawal of some of the accumulating fluid by puncture of the sheath of the cord in the lumbar region, and in some cases this measure certainly does afford temporary relief. But the end comes all the same. Other surgeons trephine the skull, and so drain the lateral ventricles. That is to say, they attempt to obtain by ***craniotomy*** what ***laparotomy*** has been able to accomplish in the other affection.

All that one can do at present is to hope that trephining may be found of real service, but up to the present time this heroic treatment has not much to show in its favour.

TUBERCULOUS PERITONITIS.

Escaping from the blood-stream, the bacilli of tuberculosis may effect a primary lodgment in the peritoneum, or they may reach it secondarily from joint or gland—and particularly from an infected mesenteric gland.

In many cases of tuberculous peritonitis there is no manifestation of bacillary infection discoverable in any other part of the body, and supposing that the invasion is in a boy, there are two deductions to be drawn—(I say "in a boy" because there is no Fallopian tube-communication by which bacilli might possibly have gained entrance). Assuming that there has been no wound of the abdomen, the first deduction is that the infection *must* have taken place through the blood-stream. The second is that the peritoneum is more prone to infection than any other tissue—for only it has become infected. But comparative pathology—especially in the way of laboratory experiments—has already made us cognizant of this peculiar and ready receptivity of the peritoneum for these bacilli.

It is generally a very difficult matter to find the bacilli in the peritoneal nodules. One might, *a priori*, have thought that it should be easy to find the causative particles in a young peritoneal tubercle, just as it is an easy matter to find the clearest evidence of malignancy in the outlying part, (that is, in the youngest and most typical part,) of a cancerous growth. But such is not the case. As soon as the bacilli become domiciled in the tissue they set up a local inflammatory disturbance of which the end and object seem to be to shut them off and imprison them in a small cluster of unstable granulation-tissue, so that they may do no further damage, and in the midst of which they may promptly perish. Probably this is the best, the only way, in which Nature can deal with these terrible germs, and I suppose that the utmost that medical treatment can do towards helping her, is to render the patient strong and resisting—to strengthen him towards securing this beneficent natural process.

A bacillus obtaining a foot-hold in the peritoneum creates a disturbance something like that ensuing on the entrance of a slug into a bee-hive. The bees are of course unable to evict the slug. But its presence causes a great local disturbance amongst them, so they sting it to death, and then plaster it over with a thick, permanent coating of wax which effectually shuts off the unclean thing and hides it from view. I imagine that it would very soon be as difficult a matter for a zoologist to recognise and demonstrate the presence of the slug in the midst of that fatty coagulation-mass, as it is for the bacteriologist to discover the bacillus in the miliary tubercle.

It is always more difficult to find the bacilli of tuberculosis in surgical wards than in medical. In the medical wards they are, for the most part, sought for in fluids in the midst of which they are fresh and free ; but the surgeon looking for them, even in a young tubercle, is as little likely to find them there as he would be to discover the mole in the little heap of earth which it has recently thrown up in the meadow. I have felt compelled here to throw over my simile of the slug, because I am not sure as to the effect which the formic acid in the sting-wounds, and the coating of wax in which we left it surrounded, may have in preserving its identity. I might possibly be told that its face was months afterwards as easily recognisable as that of Pharoah's daughter in a well-authenticated mummy in a public auction-room.

In many cases of tuberculous peritonitis the inflammation comes on very quietly, and the symptoms are in consequence mild to a remarkable degree. But if one refers to the subject of *tuberculous peritonitis* in the presence of a student who has no practical acquaintance with the disease, his thoughts at once fly to the catalogue of symptoms, under the heading "Peritonitis," which he has endeavoured to commit to memory from a misleading *vade mecum.* He sees, in his imagination, a child with a flushed face—No, I am giving it wrong, for he almost always begins his description with a remark about the *temperature.* He apparently goes about with clinical thermometers in his hands employing them somewhat as a lobster uses his antennæ which are always on the alert to guide his course in the depths of dark waters. And the modern student or the very young practitioner has a peculiar and familiar—not to say slangy way, of speaking of the reading of the thermometric index. He says that the child "has a temperature," and as even a cold-blooded animal, such as the lobster, for instance, also "has a temperature," his expression is wanting in precision and is destitute of scientific value. I know perfectly well what he means ; it is his way of expressing the idea that the child's temperature is raised considerably above the normal. But in the case under consideration there may be no rise of temperature whatever, nothing, at least, suggestive of a grave inflammation of the largest serous membrane of the body. The temperature may even be subnormal.

There is no disease, speaking generally, in which the thermometer may give more untrustworthy or deceptive information than in peritonitis.

Then, to go back, the student expects the face of the child with *peritonitis* to be flushed. If anything, it is generally rather pale, however, in these cases.

He will next suggest, in all probability, that the child will be lying on his back with the knees drawn up. But, as likely as not, though lying on his back, his legs will be straight down in bed, and his belly, instead of being distended, may be quite flat—especially in those cases which are unassociated with serous effusion—the "dry" cases, that is

All this is apt to come to the young practitioner as a revelation and a shock when he eventually finds himself at the bedside of such a case. But after he has been reminded that tuberculous disease of a joint may run its course without any of the redness, swelling, heat, or pain which he would be right in describing as characteristic of a *septic* case, the matter at once becomes clear and intelligible to him.

There may be no distension of the abdomen whatever, the walls being flat and flaccid. In *acute* peritonitis there is, of course, much bulging as there is also rigidity from muscular contraction.

Lastly, there may be little or no tenderness. What an anomalous course, therefore, from the young practitioner's point of view, chronic tuberculous peritonitis may run.

I have already alluded to the difficulty which, in certain cases, may attend the correct diagnosis of tuberculous inflammation of lymphatic glands, but such difficulty and uncertainty may be greatly increased in connection with the diagnosis of tuberculous peritonitis.

A few months ago I had under my care a little girl with a quiet swelling in the right lumbo-inguinal region. It was about as large as a duck's egg, and if there was no fluctuation in it at any rate it seemed to fluctuate. I say that at any rate it *seemed* to do so, because a sarcoma often seems to fluctuate, though when it is cut into it is found to contain no fluid of any sort, or not enough to be worth speaking about.

This girl's tumour was, without doubt, elastic. It was not tender. It was not connected with the uterus nor, so far as could be made out by rectal examination, had it any association with ovary, or pelvis. It was immoveable, and all round it, but not in front of it, was resonant intestine. The child lay on her back with her legs down flat. Her temperature-chart showed nothing of clinical interest. On opening the abdomen in the middle line the tumour was found to be a collection of tuberculous serum locked into, and tightly distending, a space amongst adherent coils of intestine. So, having swabbed it out, we closed the abdomen, and sent the child back to bed.

When fluid collects in an irregular space which is tightly walled in by adhesions, the cavity necessarily becomes rounded as it becomes distended, and when it is choke-full, fluctuation cannot occur in it, and it is then quite likely to be mistaken for a solid growth.

The chief cause of the difficulty of making a correct diagnosis in tubercular peritonitis is the presence of embarrassing adhesions. This is particularly the case in the dry or plastic variety of the disease; obviously, in those cases which are associated with much serous effusion the viscera are bathed in watery fluid, and then can no more be glued to each other than a piece of strapping can be made to adhere to a wet surface of skin.

At the present moment I have under my care a case of dry tuberculous peritonitis in which some hard nodules could be felt in the abdomen to the left of, and a little above, the umbilicus. One diagnosis was "malignant disease of the omenteum;" another was "malignant disease of the front of the stomach," a third suggestion was that the left kidney was affected, and a fourth associated the enlargements with the spleen. The abdomen was not in the least distended; the legs were down flat, and there was apparently no constitutional disturbance whatever. When I had this patient in before the students, I said to them, in connection with the difficulty of diagnosis in obscure abdominal cases, that one cannot tell of what wood a table is made until one lifts up the cloth. I have always considered this to be an extremely clever and comprehensive remark, and I make such frequent use of it in Hospital work, and also in private practice, that I expect some day I shall be claiming it as original. With a view, however, of guarding against such literary piracy, I have hitherto invariably stated, as I state now, that it was made by Dr. Oliver Wendell Holmes. No one but a prose-writing poet could have said so clever a thing, and if anyone here has not heard it before, he will not have wasted this afternoon if he will henceforth bear it in mind.

But you may perhaps, be wondering what might have been the solution of the pathological conundrum in the case just briefly recorded. Well, I opened the abdomen, and drawing out a fold of the omentum found it slightly puckered and hardened by quiet inflammatory adhesions, and sprinkled over with miliary tubercles. There were some enlarged tuberculous glands also attached to the left end of the stomach. After making a leisurely examination of the interior of the abdomen, and finding nothing else abnormal, except a roughening of the parietal peritoneum by countless small tubercular deposits, I closed the wound. The patient is still in Hospital, but she says that she feels much better since the operation, and certainly her appearance has greatly improved.

I should much like to have a look into that abdomen a few months hence—I believe that there would not be a trace of those tubercles, and nothing but some matting of the omentum to show that there had been any disease. Now and then one does get the chance of peeping into an abdomen in which one had a long while before seen miliary tuberculosis.—

Some years ago I performed a radical operation on a boy at the Children's Hospital in Great Ormond Street for the cure of a congenital hernia and hydrocele of the right side. When I opened the sac a large quantity of serous fluid ran out from the abdomen, and there also appeared the end of the omentum with miliary tuberculosis thickly scattered over it. Having allowed all the serous fluid thus to drain from the abdomen, I finished the operation and closed the wound. The boy did perfectly well. My friend and colleague, Mr. Kellock, was with me at the operation, and the case being so interesting we both remembered it. The other day he told me that he had recently seen the boy, and that he was quite well and strong and with no sign or suggestion of tuberculous disease.

May I be allowed once more briefly to tell the interesting story of how it came about that tuberculous peritonitis was discovered to be so amenable to operative treatment?—

The first case of the sort which was put on record occurred nearly forty years ago in the practice of Spencer Wells. It has not only become historical, but has had a great and lasting influence upon the treatment of obscure abdominal effusion. It was the case of an unmarried lady, aged 22, whose abdomen was as large as that of a woman near the full period of pregnancy; it was distended uniformly by fluid which gravitated with all changes of position, and was evidently free in the peritoneal cavity. Taking all things into consideration, and looking at the appearance of the patient, Wells made the diagnosis of tuberculous peritonitis.

Some months later the abdomen became much more prominent; it was dull anteriorily in all positions of the body, and it was resonant in both flanks as she lay on her back. Moreover, on her taking a deep inspiration a cyst appeared to move downwards from the epigastrium; so, doubting the accuracy of his first opinion, Wells made an exploratory incision. No cyst appeared, but much opalescent fluid escaped, and the whole of the peritoneum was seen to be studded with myriads of tubercles. Some coils of intestine were floating, but the great mass, all nodulated by tubercle, was fixed with the colon to the posterior abdominal wall. Nothing further was done; the wound was closed and dressed, and it healed in due course. The lady completely recovered and married, and when the illust rioussurgeon heard of her, twenty-two years later, she was well.

This case, I say, has had a great influence upon the treatment of obscure affections of the abdomen, and many a surgeon since that operation has been surprised to find tiny nodules, like the sweets which we called in our childhood "hundreds and thousands," sown broadcast over the surface, when he has been, so to speak, lifting up the cloth to see the nature of the wood that the table was made of. And in a considerable proportion of those cases the result has turned out as satisfactorily as in Wells's case.

It is needless for me to say that all cases of tuberculous peritonitis do not run so favourable a course. Still, the proportion of cures is so large, that in every case of even doubtful tuberculous peritonitis that is hanging fire (and most of these cases do hang fire), an incision ought to be made into the abdominal cavity, and the patient afforded a chance of obtaining a recovery which, without such operation, would scarcely be even problematical.

TUBERCULOSIS OF BONE.

Tuberculosis, like syphilis, is very apt to attack bone. But, whereas syphilis boldly attacks (as a rule) the firm, compact part of a bone—especially the shaft of a long bone, tuberculous inflammation generally makes for the delicate growing end of a diaphysis, or the spongy tissue of a small bone. Of all the small spongy bones none are so often the seat of the disease as the bodies of the vertebræ. But I might unduly weary you if, following my own inclination, I were to enter upon the discussion of the pathology and treatment of spinal caries; so I will pass it by, and will make a few remarks upon tuberculous disease of the bones of the hand and feet.

Of all the bones of the foot I think that the astragalus is the one most often the seat of primary tuberculosis, the disease usually following a sprain or twist, or some other slight injury. At first there are dull pains in the upper tarsal region, and later there is some tenderness on making deep pressure, but there is no discolouration of the skin, nor is there heat or œdema. It might be impossible to make a precise diagnosis at this stage, but, later on, as the deposit increases, the ankle-joint becomes disturbed, effusion takes place into it and it is stiff. And as the inflammation extends forwards the joint between astragalus and scaphoid becomes implicated, and local swelling and tenderness increase. Could we at this time look into the interior of the bone, we should find that all the cancellous material had been replaced by granulations, and that the articular lamellæ of compact tissue had also disappeared in places, as also the incrustation cartilage; that the neighbouring synovial membrane was either represented by the same unhealthy granulations or, less damaged, appeared thick and œdematous. At this period there is considerable puffiness about the astragalus, and if a surgeon is seeing it for the first time he at once says to himself, "Is the ankle-joint affected or not?" If he finds a bulging beneath the tendons at the front of the ankle, and also between the back of the joint and the tendon of Achilles, and if at the same time there is a fulness around the malleoli, there is no doubt but that the ankle itself is diseased. Then, if the case is allowed to drift on, the granulation-tissue will undermine and traverse the skin, fluid will escape, and permanent sinuses will form, in the depths of which the probe will discover soft spongy, carious bone.

* * * * * * * *

Possibly the sinuses have now been discharging many, many months.

What is to be done ? "Scrape," says one surgeon. But if the scraping is thoroughly done it is found at last that a very small amount of respectably healthy tarsus remains and that more sinuses than ever are left to discharge.

I have a full clinical record of a case of this sort which has been under the care of a first-rate practical surgeon in the provinces for ten or a dozen years. The patient is now six and twenty. He was sent to me first by the surgeon last May. There were many scars about the ankle and tarsus ; the ankle-joint was synostosed in good position, but there was a tuberculous ulcer over the inner side of the astragalus which possibly was connected with a little patch of diseased bone beneath—The old, extensive disease was, however, apparently at an end. " What shall I do ? " said the surgeon. I advised his giving it a final scraping, which he did with excellent result, at any rate as regards the ulcer and the sinus.

Last month I saw the young fellow again (for the second and last time). The ulcer was well, but he said that the foot ached if he tried to walk on it. He told me that for over ten years this disease of his foot had clouded, even if it had not spoilt, his life, and that it had recently been the cause of his having to decline the proposal of a partnership in a business which offered him all that he could have desired. I asked him, in a casual sort of way, if his good surgeon had ever said anything about amputation ; to this he replied that, years ago, he, the patient, had suggested amputation, but the surgeon thought that the improvement already obtained had put amputation out of the question. I reminded the gentleman that by patience and skill the surgeon had been enabled to save his foot, which was in itself a matter of sincere congratulation, but to this he gave a somewhat doubtful assent.

In connection with this case I am going to make the assertion that, knowing what we do about tuberculosis, we somesimes err in carrying conservative treatment too far. As a rule, the objection to radical treatment comes from the patient or his friends. But in this case the patient had himself proposed the adoption of radical treatment. The boy felt, I suppose, that his foot was given him to walk on, and for *ten years* it had not only been useless to him, but a constant source of annoyance. He was far worse off than a certain man who had a fig-tree planted in his garden, as only for *three years* had he sought fruit thereon, and found none. "Cut it down," said he, the business man and proprietor, "why cumbereth it the ground?" "Give it another chance," said the husbandman. "Cut it off," said our patient. "Let it alone this year also," said the surgeon, "till I shall dig about it and dung it," or in other words, "till I shall scrape it out and stuff it with iodoform."

I am not going to preach a sermon on this delightful parable, but I will remind you that the conservative dresser of the vineyard did not ask for *unlimited* time, he was going hopefully to carry out his expectant treatment only for *twelve months.*

I do not know what reminds me of it, whether it is the scriptural quotation, or the mention of serious articular tuberculosis, or my remark about it being possible for us to carry conservative surgery too far, but, as I write, the case of a clergyman recurs to my mind. When he first came to me he was a weedy, pale-faced undergraduate at Oxford, and he showed me a knee with the ovoid enlargement of advanced tuberculous disease. I advised him, as nineteen surgeons out of twenty would have done, that he should let me excise the joint without delay. He said he thought that I should advise excision, but that he had a friend at College whose knee had been excised, and that his rigid limb was always in the way, at church and at theatre, in train and in omnibus, and that he had quite made up his mind to have an amputation done, and so effectually and entirely to rid himself of his disease. This I did for him, and some years afterwards, when I saw him as a curate, I asked if he had regretted the amputation, to which he replied, "Never for one moment!" This autumn he has proudly walked, with as light a step as an artificial leg could give, into matrimony and a rectory, and I fully expect that by next Midsummer-day he will have christened his first pair of twins.

I do not believe that a curate with a resected knee-joint, and, therefore, with a stiff leg, could ever evolve into a bishop, and possibly he was thinking of this when he decided in favour of an amputation and an artificial leg. And, personally, I am of opinion that his decision was a correct one.

No one will, I trust, rashly conclude from this that I am an advocate for radical treatment in all cases of tuberculosis. On the contrary, I think that if I make a mistake it is in the cause of conservation in Surgery. I was a student of, and a house-surgeon to, Samuel Lane, himself a pupil of Brodie, and I had ample opportunity under him of seeing that even in the latter half of the 19th century, Nature, still possesses a mighty healing power. And, these old-fashioned ideas still cling to me, I am glad to say.

Nevertheless, I have, I admit, performed Syme's amputation in a very large number of cases of tuberculous disease of the tarsus in Hospital work—though only once in private practice—and I have not seen reason to regret it in any one instance. But with leather splints, with lateral splints of plaster of Paris, and with Thomas's knee-splint much can be done in the way of the successful and conservative treatment of chronic tuberculous disease of the foot.

So, too, in the treatment of chronic disease of the wrist-joint or carpus, conservative measures may afford excellent results—far better, indeed, than in the case of the foot, for the simple reason that absolute rest is here, as a rule, more promptly resorted to and more effectually carried out. In the treatment of tuberculous disease of the wrist or hand I know of no better form of retentive apparatus than the moulded splint of leather, a specimen of which I hand round. This particular splint was made for me by Spratt and Brooke. It reaches well up the forearm and it extends down to the roots of the fingers, and, being covered with fine black leather, its appearance is, to use a popular, modern word, quite "smart."

REMARKS ON THE DIAGNOSIS OF NASAL OBSTRUCTION.

BY WILLIAM LAMB, M.D. ED., M.R.C.P. LOND.

PART I. GENERAL.

I WILL begin this paper by defining in general terms what I mean by nasal obstruction.

Nasal obstruction may be said to exist when the nasal passages are insufficient for the purposes of ordinary breathing. The practical test of the presence of this condition is very simple. Does the patient sleep quietly with his mouth shut? If so, he has no nasal obstruction; if not, it is very probable that he has. The slighter degrees of obstruction only become apparent on lying down, and especially during sleep, and many persons who have good nasal breathing during the day awake in the morning with a dry mouth and throat—a sure sign that the nasal passages are more or less obstructed.

Facial Types.—Everyone must have observed many persons in whom the mouth is almost of necessity nearly always open; persons in whom the jaws are so formed, or rather so malformed, that it is an effort to close the mouth at all, and almost impossible to keep it closed for any length of time—quite apart from the patency of the nasal passages. The prominent upper jaw with its projecting incisors and highly vaulted palate, and the deficient lower jaw with its open angle and receding chin, are the most noticeable characteristics of this type of face. The mouth, instead of forming a curved line, becomes a triangular opening, "shaped like a cocked hat," as a French writer puts it. Nature seems, as it were, to have made provision for keeping the mouth permanently open, recognising the fact that the nose is more or less permanently closed; for it is just this type of face that we find so frequently associated with nasal obstruction.

How far the nasal obstruction is the cause of the malformation of the jaws is uncertain. Authorities differ. My own belief is that in many cases it is the chief, if not the only, cause of the deformity, and that in such cases the deformity might be in great measure prevented by timely operation. It is while the second dentition is in progress that the changes in the jaws first become evident. The unsightly prominence and irregularity of the upper incisors attracts the parents' attention, and I have known a child to be taken to the dentist and fitted with a vulcanite plate for the correction of the offending teeth—needless to say with no good result. I do not mean to say that in every case of such maxilliary deformity one will find adenoids or some other form of nasal obstruction, but I do mean to say that it is so in a large proportion of cases, quite sufficient to make it well worth while to connect the two things in one's mind so that the mere fact of such a deformity threatening shall lead to careful examination of the nose and naso-pharynx. It is true that nasal obstruction, and especially obstruction from adenoids, is sometimes associated with a type of face quite different from that which I have described. In this type there is no undue prominence of the upper jaw, but the reverse; its development is arrested, its teeth form the segment of a smaller circle than those of the lower jaw, and the latter instead of being deficient is well developed and projects beyond the upper one. This second type of face is quite rare as compared with the extreme frequency of the other, and never occurs, I think, apart from nasal obstruction, although there may be other causes at work in its production, such for example as congenital syphilis.

You will notice that the two types I have sketched have one feature in common, viz., transverse contraction of the upper alveolar arch.

In the first type the upper jaw makes up for the transverse contraction by sticking out in front, while the lower jaw retreats and is deficient.

In the second type the upper alveolar arch is contracted in both diameters—transverse and antero-posterior—while the lower jaw is relatively prominent.

Why in the one case there should be arrested development, and in the other perverted development of the upper jaw, is an interesting question, but quite beyond the limits of this paper

These facial types are, of course, only found amongst cases of obstruction occurring in childhood and youth, during the period of growth, before the second dentition and the ossification of the bones of the face are complete. That other causes besides nasal obstruction are concerned in deforming the upper jaw is, I think, evident from the following considerations.

In the first place nasal obstruction occurs frequently, even during childhood and youth, without deformity of the jaws.

In the second place deformity of the jaw of the first type, with the projecting upper teeth, occurs at least in a moderate degree without any nasal obstruction. I am bound to confess, however, that I have never seen a marked instance of this deformity apart from obstruction. Heredity has often been invoked to explain things that seemed otherwise obscure, and there is no doubt that congenital causes are frequently operative in producing nasal obstruction, especially one particular class of cases, which will be referred to farther on. In a fully developed case it is often difficult to separate the congenital from the acquired etiological factors. Take, for instance, the case of a child with a highly vaulted palate, some anterior obstruction, and adenoid growths—a common enough combination. There you have three conditions within a vicious circle, and the difficulty is to say which is the primary one, for each seems to be capable of causing the other two.

I will now ask you to consider *various suggestive signs* and *symptoms* which are frequently met with in certain cases of nasal obstruction, and which ought in every case to direct attention to the nose and naso-pharynx, instead of being elevated to the dignity of independent diseases, and treated accordingly, as sometimes happens. I will first take the condition of *relaxed and irritable throat*, including under this popular term a congested moist catarrhal condition of the fauces, pharynx and larynx. "Phlegm in the throat" is often complained of, especially in the morning, and at that time slight causes, such for instance as cleaning the teeth, may suffice to bring on retching. I do not forget the influence of tobacco and alcohol in producing this irritable condition; I merely desire to point out that mouth-breathing for many hours consecutively, as during sleep, has a somewhat similar action. The voice, especially the singing voice, is often impaired and husky, and there is a tendency to clear the throat. In addition to the effect of mouth-breathing upon the larynx—the effect of cold, dry, unfiltered air—there is often superadded the action of secretion—*mucus and pus—trickling down from the naso-pharynx into the larynx.* The source of such secretion in children is of course generally adenoid growths, which may be present in quite sufficient quantity to irritate the larynx in this way, producing hoarseness and cough, without causing any considerable nasal obstruction. In adults, an ordinary attack of rhinitis often acts in the same way, causing, or keeping up laryngeal irritation—a secondary laryngitis. Pus from an empyema may have the same effect.

A very annoying symptom is *sniffing*, often described as a habit. It is perhaps most marked in some cases of anterior obstruction, as in swelling of the septum opposite the ala nasi, such as one often gets with a common cold, and its cause is then perfectly obvious. In other cases it appears under the guise of a pure habit-spasm, but it will generally be found, I think, that it has been started by some nasal obstruction, which is probably still persisting.

Stuffiness is the commonest of all symptoms, and calls for no comment.

Cough is not a very frequent symptom of nasal obstruction, but it does occur and may be the only thing complained of. It is sudden, forcible, and somewhat explosive or barking in character, resembling the cough occasionally set up by the passage of the Eustachian catheter. The stimulus starts from the posterior part of the nose or the naso-pharynx: a similar stimulus from the anterior regions of the nose would probably give rise to sneezing. I have known a nasal cough to be diagnosed as "nervous," the cause not being obvious, and its sudden irritating character, together with the absence of effect on the general health, lending support to this view. In adenoid cases night-cough is common, and a paroxysmal cough very closely resembling whooping-cough is occasionally met with. The only difference is that there is no typical "whoop," but the other features—the long string of forcible coughs in rapid succession, followed by a deep inspiration and accompanied by the expectoration of ropy mucus—may be present in typical fashion.

Inability to blow the nose, in children is a sign that does not always receive the attention it deserves. Mothers notice it, and sometimes put it down as a bad habit, and try to teach the child, but of late years they are beginning to recognise its real significance, and to draw from it—and perhaps other signs—the conclusion, which is generally correct, that the child has *adenoid growths.*

As these growths give rise to a very frequent form of nasal obstruction, occurring chiefly in early life, when the reflex excitability of the organism is greatest, it is not surprising that they should, upon occasion, cause a considerably greater variety of symptoms than would be induced by a similar condition in adults. Many of these symptoms are due, however, not to the nasal obstruction, *per se*, but to the fact that adenoid growths in the naso-pharynx constitute a kind of "permanent depôt of pyogenic organisms" capable of giving rise to various infections.

The process of infection is facilitated by two circumstances which favour the stagnation of pus.

In the first place the nose cannot be blown efficiently, and in the second place the ciliated epithelium which covers the normal pharyngeal tonsil, and helps to sweep away secretion, is in great part destroyed and replaced by squamous epithelium.

Amongst misleading symptoms which may arise in these cases I will mention first *Disturbed sleep*, *night-terrors*, and attacks of so-called "*croup*."

Of these phenomena the first two are associated with dreaming, and are generally ascribed to deficient oxygenation of the blood, caused, it is said, by the child persisting during sleep in breathing through an obstructed nose, rather than use the mouth for purposes of respiration. That an instinct in favour of nose-breathing exists will be generally admitted; that it may be strong enough in some, and especially, perhaps, in recent cases, to ensure the continuance of the natural habit even to the detriment of the organism, seems, from the direct observations of Greville MacDonald and others, to be established; but that this is the rule, even in acute cases, I am not prepared to admit, and in chronic cases some other explanation must, I think, be sought for. The frequency with which snoring occurs in such cases indicates rather that both mouth and nose are being used for breathing purposes. It is true that you may snore through the mouth alone, and even through the nose alone, but it is very much easier when the air is passing through both mouth and nose simultaneously. In children snoring almost never occurs except when there is nasal obstruction; in adults the case is different.

A distressing dream is the immediate cause of an attack of night-terror, but the dreaming is not necessarily of this character, and it gives rise sometimes to other symptoms, such for example as *incontinence of urine*, which is not very rarely associated with adenoid growths. The micturition is probably generally an incident of the dream, natural and proper in its place under the circumstances of the dream. If the child should awake he may remember the dream, if not, it is forgotten, and often unsuspected alike by parents and doctor.

As regards *attacks of "Croup,"* the dyspnœa and the crowing breathing are the result of spasm, which is probably started by secretion from the adenoids finding its way down during sleep, and irritating the parts about the glottis. That such attacks of spurious "croup" are very commonly associated with dyspepsia, and are most frequent in rickety children, I am quite aware; I merely desire to remind you that the association with adenoid growths is also very frequent, and extremely important from the point of view of treatment. You cannot quickly remove the nervous erethism that characterises rickets, but you can, in many cases, remove at a single stroke one of the commonest sources of irritation.

Infantile asthma or *asthmatic bronchitis* is another condition which sometimes owes its continuance to the presence of adenoid growths. The dyspnœa is generally more or less continuous, and does not occur in the typical paroxysms that characterise the asthma of adults. In this connection it is interesting to notice that nasal obstruction in the lower animals (artificially induced) has been found to cause emphysema of the lungs.

The *constant tendency to catch cold*, both in the head and chest, is a well-known feature of adenoid cases, but is nevertheless worth considering for a moment. French authors speak of *adénoïdite*, *i.e.*, inflamed adenoids. The features of the case—altered speech, deafness, etc.—are all accentuated for the time, and recovery is generally rapid, but if the faucial tonsils should also be much enlarged a very distressing—or even alarming—condition may arise, aggravated by frequent suffocative attacks, especially at night, and demanding operative interference sometimes, even at the height of an attack.

Analagous to this condition of inflamed adenoids in children, is a much more serious affection which I have several times seen in adults, and which has been described as *Retro-nasal Phlegmon.* It consists in an acute infection of the mucous and submucous tissues of the naso-pharynx, originating generally, I suspect, in the remains of old adenoid growths. There may be little or nothing to be seen in the throat—except perhaps some bulging and immobility of the soft palate—but the nose is blocked completely. The patient speaks with a nasal intonation, he is dull and apathetic, and his whole appearance suggests profound toxæmia: he looks poisoned in fact. The general symptoms suggest diphtheria, but there is no nasal discharge and no visible membrane. The swelling may subside in a few days, in favourable cases, or it may form an abscess and burst into the nose. A few fatal cases have been recorded. I have myself seen one.

The next sign I will mention is *sore upper lip*, that is to say, an eczematous condition with excoriations and cracks about the entrance of both nostrils. It generally indicates the existence of an irritating discharge from the nose, and suggests very strongly the presence of adenoid growths. Bearing this in mind, the practitioner will have no difficulty in differentiating the case from others that may simulate it, *e.g.*, foreign body or empyema (which are generally one-sided), or gonorrhœal or strumous rhinitis (which affect both sides).

Just as adenoids in some cases betray their presence by the escape of secretion anteriorly, so in other cases their secretion —*grey mucus or yellow muco-pus* — may be seen escaping posteriorly, *coating the posterior wall of the pharynx.* In a child, this is a very suggestive sign, and by depressing the tongue and causing the patient to retch, the secretion may often be seen to flow down from above the soft palate.

Some idea may be formed of the amount and situation of adenoid growths according as their secretions escape in front or behind. Thus, when the growths are bulky and project into the posterior nares, their secretions escape through the anterior nares; but when the enlargement of the pharyngeal tonsil is moderate and tolerably uniform, affecting chiefly the posterior wall, the secretion naturally flows down that wall into the throat.

Lymphoid (or adenoid) granules on the posterior pharyngeal *wall* in a child, constitute another significant sign, pointing to the naso-pharynx. Little flattened red masses scattered over the surface are the commonest form, or the granules may become confluent into raised patches of soft gelatinous looking tissue, or the new tissue may form a band behind the posterior pillar of the fauces, looking just like a third or extra pillar. If this condition of hypertrophy exist in the pharynx, where it is easily seen, it is very likely that it will also obtain in the naso-pharynx, where it is less easily seen, but can be readily felt as "adenoid growths."

The position of the soft palate is often noticeably altered in cases of posterior nasal obstruction It hangs more vertically than usual, and farther from the posterior wall of the pharynx, and its movements are sluggish and imperfect. Bulky adenoids, posterior hypertrophies of the turbinals, and polypi, are the commonest causes of this sign.

The next suggestive sign I will mention, is a very familiar one, viz., *enlarged lymphatic glands*, especially the *deep facial, the cervical, and the retro-pharyngeal glands.* It will, I think, be admitted, that such enlargement in children very generally indicates an infection of the glands, either with pyogenic organisms, or tubercle bacilli, or with both, and certainly, one of the commonest sources of such infection is the tonsils; both the faucial tonsils, which lie outside the range of this paper, and the pharyngeal tonsil, enlargement of which constitutes adenoid growths.

The throat has been described (by Dr. Achalme) as "the headquarters of staphylococci and streptococci in the organism," and recent observers have shown that the tubercle bacillus is also a tolerably frequent visitor.

Dieulafoy found the tubercle bacillus present in the naso-pharynx in 20 per cent. of the cases he examined. He got this result by employing inoculation tests upon animals. Lermoyez, who relied upon the microscope, only found recognisable tubercles in one case of every 65 examined. The difference is wide, but is, I think, explained by the difference in method, for other and more recent observers, including Dr. Milligan, of Manchester, have obtained results which approach those of Dieulafoy, and yield an average of 15·7 per cent. as the proportion of tuberculous adenoid cases.

Whatever the exact percentages may be, the broad facts are plain, staphylococci and streptococci are abundant in cases of adenoids, and tubercle bacilli are not rare. The infection of the cervical or other glands is probably in the first instance pyogenic, in the great majority of cases, and therefore curable by removing the focus of infection. Subsequent infection with the bacillus of tubercle might thus be prevented.

In connection with the ear, three symptoms must be mentioned, viz., ear-ache, otitis, and chronic deafness. It is hardly too much to say that a child which gets *ear-ache* (or deafness) with every cold may be assumed to have adenoid growths. The assumption may possibly be wrong, but if it lead to enquiry into the state of the naso-pharynx that is all that is wanted. With regard to *otitis* it is generally admitted that the middle ear is almost always infected from the naso-pharynx, but yet in practice the occurrence of an abscess of the middle ear does not always lead, as it ought to do, to careful examination and purification of the naso-pharynx. Such purification involves of course the removal of any purulent focus, such as adenoid growths, for even when too small to cause nasal obstruction, they may be quite capable of infecting the tympanum, and other parts.

Chronic deafness, in which there is a supposed catarrhal element ("chronic dry catarrh") is often associated with nasal obstruction in adults. In many such cases it is probable that the morbid process begins in the nose, and afterwards spreads to the ear. Personally I have little doubt of this, but it is difficult to be quite sure, for such cases almost never come under observation till they are advanced. The primary nasal obstruction attracts no attention; it is the secondary deafness for which relief is first sought, and that rarely till it is very marked and quite chronic. (Cases of pure "Sclerosis" of the middle ear are, of course, not included.)

Of *Eye Symptoms* I will only mention two.

(1) *Conjunctivitis*, which may be set up by the conveyance of pus from the nose to the eye by the patient's fingers or handkerchief.

(2) *Epiphora*, or "*Watery Eye*," which in the cases we are considering is generally due to swelling of the mucous membrane at the nasal end of the lachrymal duct. This duct may also be injured by the use of the spokeshave in the operation of turbinectomy.

Of the *Nervous Symptoms* that have been attributed to nasal obstruction little need be said. The *headache* of acute rhinitis is probably familiar to everyone. In chronic obstruction headache, when it occurs, is intermittent, and is often connected with the temporary retention of secretions in the sinuses or recesses of the nose, and is relieved by their discharge.

Stammering, in children, seems to have some connection with adenoid growths, for Brieger, as the result of a large experience, found these growths in from 60 to 70 per cent. of the cases of stammering he examined. He states the fact, but offers no explanation.

For *Chorea* and *Epilepsy* there is no case made out, or, rather I should say, that what evidence there is goes to disprove any connection.

Deformities of the skeleton, such as pigeon-breast and scoliosis, are sometimes helped in their development by nasal obstruction, but the co-existence of rickets is no doubt the more important factor.

Disturbances of the general health are less prominent than might be expected. When much muco-pus is swallowed there is some gastric disturbance and anæmia; the part played by deficient oxygenation of the blood has, I think, been exaggerated for the great majority of cases. The night-sweating which is seen in children is generally due to rickets.

I have dealt in this paper, gentlemen, with extremely common-place things, which must be familiar to everyone engaged in practice, but common-place things are, after all, the most important, and I have not mentioned a single sign or symptom which I have not known to give rise to errors in diagnosis. Some of the mistakes, of course, were my own, and those are the most valuable for the accumulation of experience.

REPORTS OF SOCIETIES.

British Medical Association.

Birmingham and Midland Counties Branch.

Session 1900–1901.

The third ordinary meeting was held in the Birmingham Medical Institute, December 13th, 1900, the President, Dr. **Milner Moore**, being in the chair. Sixty members and one visitor were present.

The following gentlemen were elected members of the Branch, viz.—W. Murray, M.D., Edgbaston; J. R. Porter, L.S.A., Birmingham; and J. R. Ratcliffe, M.B., Moseley.

Actinomycosis of the Face and Neck.—Mr. Barling showed a young woman who for six months had been the subject of a chronic inflammatory condition affecting the left cheek and side of the neck. The chief features of the case were much purplish red discolouration from chronic congestion of the parts, the formation of small vesicles which eventually suppurated and broke, leaving granulation areas and very dense infiltration of the soft parts, which rendered them inextensible and prevented the opening of the mouth. There was no evidence of bone mischief. The ray fungus and the characteristic mycelium were found in several specimens of pus taken, but successful cultivation had not been made. The patient was steadily improving under large doses of potassium iodide.

Removal of Thyroid Enlargement Under Cocaine Anaesthesia.—Mr. Barling showed a woman, aged 50, from whom he had removed the left lobe and isthmus of the thyroid without the administration of a general anaesthetic. The plan followed was that advised by Mr. Berry. One-third grain of morphia was administered hypodermically twenty minutes before operation, and then half-grain of a 4 per cent. solution of cocaine was injected along the line of incision, which reached from a little above the angle of the jaw obliquely downwards, and forwards across the neck to the inner side of the right sterno-mastoid. In addition a little 0·5 per cent. of eucaine was brushed into the wound when discomfort was complained of. Owing to the great vascularity of the growth, and to a portion of it stretching beneath the trachea, the operation was prolonged to nearly two hours, but although the compression symptoms before operation were very marked, no anxiety as to the breathing was experienced during the removal of the goitre. The patient described her sensations as those of bruising not of pain, and the operation was borne practically without complaint.

Gastrostomy by Modification of Frank's Method.—Mr. F. Marsh showed a young woman, aged 25, for whom he had performed gastrostomy on November 16th. She was first seen in consultation with Dr. Warden, on November 2nd. The history briefly was that seven months previously she noticed a "rustling" noise in her throat, and since then a gradually increasing difficulty in swallowing. She could now only swallow fluids with difficulty, and the movements of deglutition caused much pain-shooting upwards to ears. The expectoration was at times blood-stained, and there were two or three enlarged and very hard glands in R. submaxillary and both upper cervical regions. There was a family history of cancer. On examination an extensive growth was found at the junction of the larynx with æsophagus, through which the smallest size bougie could not be passed. Gastrostomy was advised, and in the interim she was to continue taking large doses of Potass. Iodine. On November 14th the upper edge of growth was seen with the Laryngoscope, and the posterior wall of larynx on the R. side was found to be involved. The difficulty of swallowing had increased, and gastrostomy was accepted. This was done on the 16th by modification of Frank's method, the fibres of the rectus being separated—not incised, and sutured with the peritoneum—by a continuous suture—to the base of the withdrawn cone of stomach. The apex of the cone was brought through a small opening above the upper angle of incision, and sutured to the skin edges. A No. 12 Jacques catheter was introduced, and 6 oz. of peptonised milk was given before the patient left the operating table. She made an excellent recovery, and was fed regularly from the first, the quantity being gradually increased. She was now taking one pint of thickened milk every six hours, and was gradually gaining weight. Mr. Marsh, having done the operation several times, considered the method a very satisfactory one. The difficulties one had subsequently to contend with were (1) the tendency of the track to become straight if a tube was constantly retained, so permitting escape of stomach contents, and (2) the tendency of the orifice to contract if a tube was only introduced at meal times. The unusually early age of the patient was worthy of note.

Excision of Elbow Eleven Years Ago.—Mr. Morrison showed a gentleman, aged 27, whose left elbow joint he had excised in 1889 for tuberculous disease of the bones. The resulting *quasi* joint possessed a wide range of flexion and extension, and there was also some degree of pronation and supination, so that the patient was scarcely conscious of any inconvenience from the operation. Several radiographs of the elbow were also shown, together with the special splint (permitting both rotary and hinge movements at the elbow), which had been worn during the healing of the wound.

Remarks on Some of the Local Tuberculous Affections of Children.—Mr. Edmund Owen, Senior Surgeon of St. Mary's Hospital, London, read a Paper on the above subject, of which the following is an abstract. Enlarged cervical glands—are they always tuberculous? Difficulty of deciding in some cases as to their nature. Sarcoma of glands may closely resemble tuberculosis. The diagnosis of tuberculous disease of a joint is not always easy. Tuberculous disease of a joint sometimes comes on very quietly and leaves it synostosed; at other times it runs a rapid and disastrous course. The value of *change* in the treatment of tuberculosis. Tubercular meningitis is likely to occur when least expected; the practitioner should always be on the look out for it; its early signs are apt to be equivocal. Treatment of tubercular meningitis. Tuberculous peritonitis; its nature, recognition, and treatment; strangely irregular course often taken by the disease, and difficulty of making correct diagnosis till abdomen is opened: diagnosis and cure thus effected at the same time. Tuberculous disease of the wrist and foot. General remarks on tuberculosis.

Mr. Bennett May, Mr. Barling, Mr. Marsh, Mr. Heaton, and Mr. Oakes joined in the discussion; and Mr. Edmund Owen replied.

MIDLAND MEDICAL SOCIETY.

The second ordinary meeting of the Society was held on Wednesday evening, November 28th, 1900, at the Medical Institute, the President, Mr. JORDAN LLOYD, in the Chair.

Dr. J. G. Emanuel was elected a member of the Society.

Charcot's Disease.—Mr. Haslam showed a woman, æt. 46, with this condition. She had always had good health, except for the fact that for the last five or six years she had had pains in both legs at irregular intervals. Ten months ago she twisted her right knee in getting into a cart, but she was able to go on with her work that day. On the following day the knee was greatly swelled, but there was very little pain. She kept about for two weeks, but then, owing to the weakness of her knee, she rested in bed for three weeks. The swelling disappeared to a great extent, but she could not trust herself to bear much weight on the knee, as it felt as if it would give way. Her condition was as follows on admission :—1. Walks with difficulty, owing to weakness of right knee, very little pain in it. 2. Knee 2½ inches more in circumference than sound one. 3. Swelling of synovial membrane, very little fluid present. 4. Temperature of knee increased. 5. Flexion very limited, owing to locking of bones. 6. Joint otherwise very loose, hyper-extension and lateral movement considerable. 7. Slight thickening about lower end of femur. 8. Can stand with eyes shut. 9. No gastric crises. 10. Tactile, and heat and cold sensations normal. 11. Pupils react to light and accommodation. 12. No trouble with bladder or rectum. 13. Knee jerk on left side absent. 14. Shooting pains in legs at times. The X rays show (1) very marked displacement of the tibia forwards and outwards, (2) slight thickening of lower end of femur, (3) considerable erosion of condyles of femur, and some of the head of the tibia.

Uterus with Lacerated Cervix and Vagina.—Dr. A. S. Underhill showed a uterus with a lacerated cervix and vagina. The patient was a multipara, 34 years of age. On October 4th, being in labour, she sent for a midwife. In about seven hours, after much difficulty, the head and shoulders were born, but as delivery could not be completed, a medical man was sent for, who used some traction, and not feeling certain as to the condition, advised her removal to the Guest Hospital. On admission the head and thorax were protruding from the vulva, the upper cervical and mid-dorsal vertebræ were separated, so that the parts were only held together by skin. The vagina was completely blocked by a large fœtal abdomen palpably full of cysts. Embryotomy was completed by emptying several cysts. No force was used, and the fœtus was easily expelled. The placenta came away directly afterwards. Hæmorrhage was slight, the uterus contracted firmly. A full dose of ergot was given, and the patient was put back to bed. Four hours afterwards the House Surgeon found her blanched, with a feeble running pulse, restless, and only partially conscious. There was very little bleeding externally. Her abdomen now contained two swellings, the well defined, firmly contracted uterus, and by its side a deep seated but less distinct swelling, crepitant on palpation, reaching well above the umbilicus. She died shortly after in a state of collapse.

Post-mortem examination showed a deep laceration through the whole thickness of the cervix and the adjacent wall of the vagina. The peritoneal cavity was not opened, but the peritoneum was stripped from the posterior wall of the abdomen to the left kidney, forming a large cavity filled with blood clot and causing the second swelling noticed before death. A fairly large vessel was found in the lacerated cervix, which had evidently been bleeding, and caused the stripping up of the peritoneum and the consequent death from hæmorrhage.

Dr. Underhill also showed a specimen of double hydronephrosis with sacculated ureters, a large thickened bladder and a stricture close to the membranous portion of the urethra. It was taken from a fœtus born at full term but dead. There were other abnormalities about the fœtus: a double harelip, cleft-palate, an interventricular foramen, a supernumerary finger on each hand, and supernumerary toe on each foot.

Clip Sutures.—Mr. Wm. Thomas showed specimens of the clip sutures advocated by Dr. Paul Michel.

Mr. Heaton read a paper on the Prognosis and Treatment of Hernia in Childhood.

In the report of the first ordinary meeting of the Midland Medical Society, published in the December number of the Review, the names of Messrs. York Flewitt and H. S. Ware should have been included in the list of newly elected members.

MIDLAND MEDICAL SOCIETY.

The Third Ordinary Meeting of the Society was held on

Wednesday evening, December 12th, 1900, at the Medical Institute, the President, Mr. JORDAN LLOYD, in the chair.

Mr. R. Clayton Morris and Mr. F. G. Haywood were elected members of the Society.

Rupture of the Gall Bladder.—Mr. Barling showed a male patient, aged 19, who received a blow from a railway buffer, September 20th, 1900. The shock was moderate, and was followed by slight symptoms of peritonitis and by a steadily increasing accumulation of fluid in the abdomen, associated with jaundice, occasional vomiting, and at the end of a few days some diarrhœa, the stools containing a lot of bright green biliary colouring matter. As, in spite of the diarrhœa, the fluid increased, the abdomen was opened at the lower part on the 13th day, and about six pints of what appeared to be pure bile were collected, a large quantity in addition escaping; there was no trace of blood seen. The discharge from the incision ceased in three or four days and no further abdominal mischief ensued, but a left pleural effusion followed, and eventually about 70 oz. of bile-stained but not purulent fluid were removed by aspiration.

Rupture of the gall bladder was inferred, rather than rupture of the liver or ducts, because no hæmorrhage was found in the abdomen, which would pretty certainly have been the case had the liver been torn; further, it is difficult to see how rupture of the ducts could occur without injury to the liver substance.

Gall Stones.—Mr. Barling also showed a large single gall stone removed from a lady who suffered from attacks of pain in the epigastrium and in the back, but without vomiting or jaundice.

The interest of the case lay in the fact that a moveable lump could be felt in the abdomen below the liver, the mobility being so free that the mass could be displaced downwards several inches.

The explanation of this lay in the very much elongated gall bladder, the distal end of which could be brought three inches out of the abdominal incision; it contained only the one stone.

Mr. Barling also showed the liver, bile ducts, and duodenum of a patient from whom he had removed a gallstone impacted in the common duct, close to the duodenal opening. The patient had suffered severely from gall stone colic and persistent jaundice, and at the first operation the contracted gall bladder was found after the separation of much adhesion underneath the liver, and from it were removed two small stones. After further prolonged search another stone was found in the position mentioned above, but the patient's condition forbade any further attempt at its removal then.

A month later, the patient having had three intense attacks of colic in the interval, the abdomen was reopened, and the stone found exactly in the same position. It was removed by direct incision through the head of the pancreas, as the finger in the greatly dilated common duct could neither push the stone on nor draw it back. An artery was divided in cutting on to the stone. The patient did well for four days, when leaking from the duodenum began, which was followed by rapid loss of strength, and the patient died on the seventh day after the second operation.

The autopsy showed no general peritonitis, but a cavity contained material which had escaped from an opening in the duodenum about three-quarters of an inch in diameter.

Meningitis.—Dr. Kauffmann showed two cases illustrating the results of meningitis.

Rhythmical Movements of Arm and Leg.—Dr. Douglas Stanley showed a patient, aged 52, who had marked rhythmical movements of the right arm and leg. His occupation was that of sorting scrap-iron. He had had no important illness, and there was no history of syphilis. The movements had been present for two years, having begun in the right arm, and then appearing in the right leg and foot. The left side was unaffected. The movements resembled a very coarse tremor, ceasing for a time on making any voluntary effort, such as holding a glass of water; they could also be stopped in the hand by a sharp blow with the other on the palm. The movements were not present during sleep. There was no peculiar expression of face, nor affection of voice. There was nothing abnormal in the eyes. The knee jerks were rather over-active, there was no cardiac lesion; the urine showed a low specific gravity, and a faint trace of albumen. There was nothing to suggest insular sclerosis or trade spasm. The diagnosis as to the case being a form of choreic affliction, or one of paralysis agitans, was discussed.

Rupture of Uterus and Vagina.—Mr. Smallwood Savage read a note on a case of complete rupture of the uterus and vagina successfully treated by drainage and suture.

The woman, aged 20, had been in labour one week before Mr. Savage had seen her on October 20th, when he found a hard pendulous belly, with the head immovably fixed on the left side of the pelvic inlet. The os was the size capable of admitting a thumb, and the cervix displaced upwards and backwards. Digital dilatation was performed, and in so doing the cervix and posterior vault of the vagina was ruptured. Turning and the application of forceps was out of the question, as the uterus gripped the fœtus too tightly, and maintained the head in the left iliac fossa. Perforation allowed the extraction of the uterine contents when it was found that the whole of the cervix was split about three and half inches, the rupture extending through the base of the right broad ligament into the peritoneal cavity, admitting two fingers, and allowing the extrusion of the intestine into the vagina. Within three hours the patient was anæsthetised, the vagina thoroughly cleaned, the cervix stitched up, and the hole into the peritoneal cavity packed with iodoform gauze for drainage. The patient made an uninterrupted recovery, and in a fortnight the cervix was perfectly healed.

Dr. Lamb read a paper on the Diagnosis of Nasal Obstruction.

REVIEWS.

◆

CANCER OF THE STOMACH.*

THIS Brochure is a study of 150 cases diagnosed as primary Cancer of the Stomach, which were admitted into the Johns Hopkins Hospital from its opening on May 5th, 1889, until March 31st, 1898. Of this number the proportion of males to females was as 5 to 1, while 57 per cent. occurred between the ages of 40 and 60 years. They seemed to be distributed between the white and coloured races in due proportion, but there was a marked excess of foreign born as compared with native born persons, and of the former a considerable majority were of British birth. Comparatively few presented any family history of cancer, and the number of cases in which there was a history of old gastric trouble was not greater than might be expected in hospital patients of the same age suffering from other diseases; nor did this series of cases offer any striking evidence that alcohol, mental influences, or local irritation play an important part in the production of cancer of the stomach, while in only one instance was there any direct connection between an injury and the onset of the disease. Six of the cases were under thirty years of age, all six being between the ages of twenty and thirty. The disease at this age ran a rapid course and terminated as a rule somewhat suddenly. The most generally complained of symptom was pain, and next to this vomiting, dyspepsia, and loss of weight and strength; a surprisingly large number gave a history of an acute onset. In about one-half, the disease had lasted less than six months before admission. The pain was generally made worse by food, but in a small number the contrary was the case, and where pain was absent, this was not explained by either the position of the growth or the absence of ulceration Vomiting was the next most frequent symptom to pain and was especially related to growths situated at one or other opening of the stomach, while where the growth was situated upon the walls vomiting seemed to be less marked. Hæmatemesis occurred frequently and was usually dark coloured, but occasionally bright red; in one case profuse hæmorrhage was followed by permanent loss of sight. Offensive vomiting occurred only once and was apparently due to sloughing of the growth without communication with the bowel, although the odour was foul and fæcal. We are told that in rather a surprising number the appetite was practically normal and that many had a desire for food but dared not gratify it on account of the dread of subsequent pain and distress; about half had decided anorexia. Loss of weight was a very common symptom, even in those cases where there were no marked diagnostic features. In the examination of the stomach contents after a test breakfast removed by a soft tube, the authors are of opinion that the presence of blood is always suggestive. Free hydrochloric acid was permanently absent in a majority of the cases, but it was present in some. Lactic acid was generally present, but in a few cases the gastric contents were neutral or alkaline. Examinations under the microscope of the washings of the stomach enabled the authors to detect masses of malignant tissue in several cases. They also noticed the frequent occurrence of the Oppler-Boas bacillus which appears to be closely associated with the presence of lactic acid. In half the cases there was more or less irregular fever which was not always explained at the autopsy by the presence of foci of suppuration. Enlarged glands above the clavicle and in the axilla were more often absent than present; the bowels were generally constipated; the urine was usually free from albumen and casts, but sometimes contained both, and a certain degree of mental depression was often observed, in one case amounting to insanity which lasted for three months before death. Coma was not present in any case. Perforation of the wall of the stomach occurred in six cases, in three of which the condition was latent. Reference is made to an occasional metastasis of the growth to the skin of the abdomen and to the navel; jaundice was present in six cases and ascites in eight, while œdema of the legs occurred in twelve. In two cases there was thrombosis of the femoral veins and in one case thrombi formed in fourteen or fifteen veins. A tumour was recognised during life in 115 cases, of which 48 were epigastric and 25 umbilical; 18 were in the left hypochondrium and 17 in the right. In 69 cases the tumour moved with respiration either on inspection or palpation, and in 21 there was communicated pulsation from the aorta. There was visible peristalsis in most cases; the tumour was sometimes very moveable. Inflation of the stomach usually dragged the tumour downwards and to the right. In 42 cases the dilated stomach formed a recognisable tumour either before or after inflation. The greatest prominence was usually below the navel. Contrary to the opinion of Broadbent, the authors state that in their experience a much larger number of cases of dilatation of the stomach are due to malignant disease than to any other single cause.

---

* Cancer of the Stomach A clinical study, by W. Osler, M.D., F.R S., F.R.C.P., London, and Thomas McCrae, M.B., L.R.C.P., London, of the Johns Hopkins Hospital, Baltimore. London: H. K. Lewis. 1900.

The patient though emaciated may not be either anæmic or cachetic in appearance. The atrophied and cancerous stomach may form a palpable tumour, and to be felt as a narrow firm cord or an elongated sausage-like mass below the left costal margin. This is due to contraction of the entire stomach wall which is infiltrated with cancer. It resembles cirrhosis ventriculi, and the authors believe that it cannot be clinically distinguished from it, and that even *post-mortem* it may be difficult to reach a positive diagnosis. The most important evidence is obtained by the passage of the stomach tube, as the stomach contents, if any are obtained, are usually small in amount, and if the quantity is repeatedly observed to be less than 15 ccs., it is very suggestive when taken together with other symptoms. On inflation the patient frequently vomits immediately, or there is no increase in the gastric tympanic area.

Tumours must be distinguished from the thickening which may occur about a gastric ulcer or simple hypertrophic cirrhosis of the pylorus; the former is especially apt to lead to mistakes. Where there is an old history of gastric ulcer it may be impossible to say that cancer may not have supervened. According to the authors even where free hydrochloric acid is present it cannot be said with certainty that cancer has not arisen in a previous simple ulcer, but the three cases given are not convincing, as they all proved to be cases of ulcer without malignant disease. On the other hand the absence of free hydrochloric acid cannot be taken as evidence of the presence of cancer. The second condition is comparatively rare, but the diagnosis is difficult. The history is usually long, the progress of the case slow, the symptoms are those of dilatation, and hydrochloric acid is present at any rate until the case is far advanced.

In fourteen cases no tumour was found on examination during life, but was found *post-mortem* in some part of the stomach. In four of these the tumour was situated at the pylorus; in two at the cardiac orifice, and in the others the growths were situated in some part of the wall.

Contrary to the opinion of some authorities our authors state that compared with other data the evidence to be obtained from the examination of the blood of gastric cancer is of slight value. The red corpuscles were counted in fifty-nine cases; in twenty-seven of which they were over four millions, and in sixteen below three millions. An increased number of red corpuscles is found under two conditions, namely, persistent vomiting and constant secretion into the dilated stomach; in both cases diarrhœa may be a contributive factor. The average percentage of hæmoglobin was 49·9, which is, as they remark, a low record in proportion to the average number of red corpuscles. Leucocytes were counted in sixty-two cases, in twenty-nine of which they were below 8,000. There were no special peculiarities other than those of secondary anæmia. The cases with leucocytosis showed a somewhat high percentage of polymorphonuclear forms. No myelocytes were found. It has been stated that digestion leucocytosis does not occur in cancer of the stomach. In twenty-two cases in which an accurate record was obtained digestion leucocytosis was present in ten and absent in twelve; while, our authors say, the total number of cases is small, the large proportion with digestion leucocytosis raises a doubt as to the value of its absence as a diagnostic sign of cancer. As is well known some cases of cancer of the stomach may closely resemble pernicious anæmia. They consider that in a doubtful case a blood count below one million red corpuscles is strongly in favour of pernicious anæmia, and that while nucleated red blood corpuscles are present in all very severe anæmias, megaloblasts rarely if ever occur in cancer of the stomach.

Although the general progress of cases of cancer of the stomach is steadily downwards, instances are occasionally met with in which remarkable temporary improvement may occur. Examples are given, as in one case, after a very positive reassuring opinion from a consultant that the case was only one of gastric catarrh, and in another after an exploratory incision. Illustrations are also given of the way in which when there are no special gastric symptoms, cancer of the stomach may be overlooked owing to the presence of other serious diseases such as phthisis, Bright's disease, etc.

APR 15 1902
LIBRARY

The number of cases which came to autopsy was only 42, of which 24 showed tumour in the pyloric region. As to the nature of the growth, it was adeno-carcinoma in 13, and carcinoma-simplex in 23, of which the former seemed to run a more rapid course.

With reference to surgical treatment, the authors emphasise the great importance of operating early and quote the saying of Czerny and Rindfleisch, that the presence of a positively diagnosed tumour is a contra-indication to radical operation. They urge that exploratory incisions should be more frequently undertaken in view of the importance of perfectly accurate diagnosis in the early stages and the hopelessness of surgical interference in the later stages. Where the growth is at the cardiac opening, gastrostomy should be done early, as to wait until the patient has lost much ground, is feeble, emaciated, and anæmic, is to court disaster. When pyloric stenosis has occurred, artificial communication between the stomach and some part of the small intestine is frequently required and by this means life is prolonged, nutrition is improved, and discomfort lessened.

Medical treatment should have for its objects to prolong life with as much comfort as possible. No absolute dietary rules can be laid down, but the food should be given in small amounts and in the most digestible form. Liquids must be given sparingly and thirst is best allayed by hot water. Milk is frequently well taken, as are soups and meat extracts. Meat should be finely minced; eggs in various forms are useful; fats are to be avoided, while carbo-hydrates often give discomfort through fermentation. Vegetables should only be given sparingly, and the coarser kinds omitted. Stewed fruits are helpful, and the special longings of the patient should be as far as possible gratified; when necessary, nutrient enemata may be given.

Stomachic bitters such as condurango, quassia, gentian, calumba, and nux vomica may be given with hydrochloric acid. Our authors speak of alcohol as very useful in the shape of whiskey taken neat when the stomach is empty or diluted with soda water or Apollinaris. The stomach tube is nearly always indicated; even where there is no dilatation of the stomach, an occasional lavage is valuable; and where there is dilatation the stomach should be washed every two or three days. A history of hæmorrhage and the presence of ulceration do not contra-indicate the use of the tube, as injury will not occur if ordinary gentleness be employed. Arsenic is spoken highly of as a general tonic, but the use of antiseptics does not seem to be of much value, although sometimes a minim of carbolic acid or creasote, two minims of tincture of iodine, with a drachm of glycerine may be useful in allaying fermentation. Lavage may be required daily where there is stenosis of the pylorus and resulting dilatation. It is best performed at bed-time and at least four hours after the last meal. Plain water may be used or various mild antiseptics such as boracic acid, thymol, salicylic acid, etc., may be added. For the relief of pain chloroform in doses of three to five minims, chloral, belladonna, codeia (a quarter to half a grain), and morphia as a last resort, are useful. Vomiting may be checked by lavage. Where hæmatemesis occurs the patient should be kept quiet, nothing should be given by the mouth for some hours, and then the nourishment should be in small quantities, and cold may be applied to the epigastrium. Morphia is usually indicated. For constipation the authors say they have found the fluid extract of Cascara of great assistance.

ROBERT SAUNDBY.

ON SOME CIRRHOSES OF THE LIVER.*

THIS volume is a reproduction of Dr. Cheadle's excellent Lumleian Lectures for the year 1900. The first lecture is devoted to the consideration of some of the many unsettled points in the pathology and symptomatology of cirrhosis. The second deals with the associations and course of the disorder, and the third with the means by which it may be treated.

The questions which Dr. Cheadle propounds for discussion are too numerous for quotation, and it may suffice to say that they largely concern the relation which the different forms of cirrhosis bear to one another. On the whole Dr. Cheadle's position may be summed up by saying that, whilst he believes that the atrophic cirrhosis is practically always of alcoholic origin, and that the hypertrophic variety is in the great majority of cases either syphilitic or alcoholic in nature, he is willing to admit the existence of another and separate form of hypertrophic cirrhosis, possessing the clinical and anatomical features described by Hanot and accepted by the French school of pathologists—

---

* On Some Cirrhoses of the Liver. Being the Lumleian Lectures for the Year 1900, delivered before the Royal College of Physicians, London, by Walter Butler Cheadle, M.A., M.D., Cantab., F.R.C.P., Senior Physician and Lecturer on Clinical Medicine, St. Mary's Hospital. London: Smith, Elder and Co., 1900.

although he himself has never come across a case which entirely fulfils the conditions laid down by that observer. With regard to the much-debated question whether the large liver is capable of shrinking into the atrophic variety, Dr. Cheadle takes up a distinctly negative position. He admits that there may be an early stage of engorgement and congestive swelling in the atrophic cases, but is definitely of the opinion that the hard enlarged liver of hypertrophic cirrhosis can never pass into the small hob-nailed variety. In maintaining the usual similarity in origin and nature of the two varieties of cirrhosed liver, Dr. Cheadle agrees with those who declare that the symptomatology of the two varieties is by no means necessarily distinct. Thus he upholds Dr. Foxwell in the opinion which he expressed in this journal that jaundice is as common in the one variety as in the other. And although it must be acknowledged that ascites is more constant in the atrophic variety, it is yet of no uncommon occurrence when the liver is enlarged. In the small atrophic cirrhosis the occurrence of both ascites and of marked jaundice is usually of unfavourable prognosis, though there are plenty of exceptions to this rule.

The second lecture describes the various disorders which are associated with cirrhosis, either as complications, as results, or as common effects of the same cause Especial stress is laid upon degeneration of the heart muscle, and fibrosis of other organs. In the latter half of the lecture, Dr. Cheadle returns to some of the previously debated questions, and insists that a too rigid classification must not be attempted, seeing that more than one cause may easily be present in the same case, giving rise to intermediate pathological types. Prognosis is also considered, and the distinctive features of the favourable cases are stated to be as follows: (1) The existence of a large liver, probably implying a more acute cirrhosis; (2) less advanced age; (3) good general nutrition of the patient; and (4) the presence of syphilis as a cause, or, failing that, of a more acute alcoholic history.

The third lecture is devoted to questions of treatment, and in this there is but little to which we need refer. Dr. Cheadle is well known as an advocate of early tapping in cases of cirrhosis, and we heartily agree with the arguments which he brings forward in favour of the procedure. We need hardly add that attention is drawn to the questionable advantage of operative treatment in very late stages, though, of course, symptoms of embarrassment of other organs often render the adoption of such measures absolutely necessary. They are often, nevertheless, the immediate precursors, if not the direct cause, of a rapidly fatal ending to the case.

DISEASES OF THE GENITO-URINARY SYSTEM.*

THE book has been written with great thought and study, representing a good and sound up-to-date record of our knowledge of diseases connected with the genito-urinary tract, and comprising all the recent literature of the subject made known to us in the many writings of different surgeons, together with the essentially practical experience of the author's own work. It is in this latter way that the work is to be recommended to students and practitioners alike, for the clear and simple practical instruction as to the symptoms, diagnosis, and treatment can be understood with ease.

The illustrations generally are only fair, and scarcely compare favourably, in either quantity or quality, with those met with in works of a similar kind. Plates representing morbid pathological conditions are very few, and, such as they are, can scarcely impart any idea of the real state they are supposed to represent.

In the chapter on varicocele the author describes fully the subcutaneous method of the radical cure, and mentions that it is the operation he himself always employs. He claims for its use that the dangers of suppuration and infection are less, the period of confinement entailed shortened, and its results better. On the other hand, we are told the patient is placed standing back to a table, so that he can be placed upon it later when fainting. Granting, then, as the author maintains, that the results are as good, that the vas deferens and spermatic artery are not by mistake included in the subcutaneous ligature, it does not seem justifiable to submit our patient to a very severe nervous shock, often terminating in a faint, or, short of that, in a struggle that may falsify the puncture even of a most careful surgeon. We certainly think that, with the easy and safe administration of anæsthetics nowadays, operations of all kinds should be performed, as far as possible, without pain to the patient, and with deliberation on the part of the operator.

---

*Diseases of the Genito-Urinary System. By Eugene Fuller, M.D., Professor of Genito-Urinary and Venereal Diseases in the New York Post-Graduate Medical School. New York, etc. : The Macmillan Co. 1900.

In discussing the treatment of vesical calculus, the author brings to bear all the points which determine the choice of operation, whether litholapaxy or lithotomy, and after a very full chapter on the subject, says that litholapaxy should be done in all cases when there is nothing in connection with the stone itself which renders crushing impossible; but that if some pathological vesical condition exists which of itself requires a cutting operation for its cure, then the bladder should be opened. This sums up clearly and in a very short way what is the line of thought which determines the choice of operation.

In speaking of supra-pubic cystotomy, sound advice is expressed when the author states in reference to the closure of the supra-pubic wound, that it should be attempted when the physical condition of the patient, nature of the disease and the absence of any impairment to the vesical function would favour such a step.

On page 662, a woodcut is shewn representing a patient lying flat on his belly and in a position that is recommended for the operation of exposure of the kidney. This position in our English practice is never adopted, nor can we advise its adoption, for we are further told that a cushion is to be placed transversely under the abdomen so as to render the loin more prominent. On the face of it, the movements of respiration are of necessity seriously impeded, and the anaesthetist has difficulty in the application of his inhaler to the patient's mouth. We think too, that in certain inflammatory conditions of the kidney, attended with general febrile symptoms, this position for its exposure would not be unattended with serious risks.

DISEASES OF THE TONGUE.*

THIS second edition of Mr. Butlin's well known book on Diseases of the Tongue, is very much more full and complete than was the first edition. In its preparation Mr. Butlin has been aided by Mr. W. G. Spencer, and by their united efforts the authors have written a most complete and scientific treatise. We can point to no subject in connection with the diseases of the tongue which has been omitted, and more than that, the descriptions are on the whole, more complete and more clear than any we remember to have met with in writings on diseases of the tongue.

In the first chapter is contained an excellent description of the anatomy of the tongue and its adjacent glands, reference being freely made when necessary, to the comparative anatomy of the organ. Then follows a section on the congenital defects of the tongue. The authors are sceptical as to the occurrence of complete absence of the tongue; they have never met with a case themselves, and by their judicious criticism throw grave doubt on the authenticity of the recorded cases. We are glad to see the remarks on congenital ankyloglossia or tongue-tie. The shortness of the frænum linguæ in young infants is simply due to a slight backwardness in development and almost invariably remedies itself as the child grows. As the authors say, the "real persistent cases are excessively rare," and far more harm than good is done by snipping the frænum. There is an apparently ineradicable superstition on this subject, and we wish that every practitioner could have an opportunity of reading Mr. Butlin's remarks.

---

* Diseases of the Tongue. By Henry T. Butlin, F.R.C.S., and Walter G. Spencer, F.R.C.S. London: Cassell and Co. 1900.

As an excellent description of one of the more rare conditions seen on the surface of the tongue, we may cite that of erythema migrans, or wandering rash. We quote this as an example of what a good word-picture of a pathological condition ought to be, and we only wish that we could meet with such clear writing more often than we do in medical books; but, unfortunately, English composition is not one of the strong points of the medical author of the present day. Mr. Butlin and Mr. Spencer advocate excision as the most suitable treatment for primary tubercular ulcers of the tongue, and we notice that they do not mention the treatment by application of a solution of lactic acid. The chapter on non-malignant tumours of the tongue, all of them uncommon, is very clear and complete, as is also that on sarcoma of the tongue. Mr. Butlin's views on the treatment of epithelioma of the tongue are well known, and, in the light of modern knowledge, must be looked upon as being sound. He advocates the method of removal of the tongue through the mouth, as a rule, and does not think it is often necessary to remove more than half of the organ. He argues, too, in favour of the routine removal of the glands in the anterior triangle, but prefers to do this some three or four weeks after removal of the tongue. The weak point about this procedure seems to lie in the fact that the lymphatic channels between the primary growth and the glands are left untouched. Mr. Butlin recognises this objection; but holds that in the case of epithelioma of the tongue these channels are not packed with cancer cells, as are the lymphatic vessels leading from a carcinomatous breast. He may be right; but the point remains to be settled, and, until it is settled, we feel compelled to hold the opinion that, in a case of extensive epithelioma of the tongue, the patient runs a better chance of permanent cure when the tongue is removed through the submaxillary region and the structures of the floor of the mouth are cut away.

Messrs. Butlin and Spencer's book is in every way so admirable, the writing is so clear, the plates are so good, and the subject has been treated in such a scholarly and scientific manner, that we can with confidence give it the highest possible praise.

ELECTRICITY IN GYNÆCOLOGY.*

According to the preface this small work is intended to be a practical guide to the use of electricity in gynæcology, and "this manual is particularly directed to the general practitioner, and the apparatus required for the successful application of electricity in gynæcology is neither so complicated nor so expensive as to preclude its use by him, while the results he would obtain by its use in suitable cases would amply compensate him for the trouble he might take to acquire the necessary manipulative skill."

Although we fully recognise the good intentions of the author, and his wish to help the general practitioner, we doubt if there is one practitioner in a hundred who will find this book a real help to him. A very considerable knowledge of electricity would be required of anyone attempting to put this book into practice. To one possessed of this knowledge, and also of the apparatus required, the book will be a help.

As regards the application of electricity in gynæcological cases, we strongly dissent from the opinions expressed in this book. Instructions are given how to apply electricity in cases of "pelvic exudations and adhesions," "uterine inflammations," "subinvolution," "uterine hyperplasia," "anteflexions and anteversions," "retroflexion," "suppurative salpingitis," "hydrosalpinx," "hæmatosalpinx," "extra-uterine pregnancy," and, of course, "fibroid tumours of the uterus."

We recognise fully that while patients are resting in bed and submitting themselves to electrical treatment, inflammatory exudations in the pelvis will often subside and disappear; which is the most potent factor in the cure we leave to our readers to decide. To advise electricity in the treatment of displacements of the uterus, of inflammatory conditions of the tubes, of extra-uterine pregnancy, and of fibroids, we consider to be either futile or dangerous. We hope that no practitioner of medicine will take this book as his guide in the treatment of gynæcological cases.

---

* Electricity in Gynæcology. By Richard J. Cowen. Ballière, Tindall, and Cox, King William Street, Strand.

ORTHOPÆDIC SURGERY.*

THIS work is a valuable contribution to the literature of this department of surgery, and is evidently based on a large amount of careful work. The author states his own views, and supports them in a way that indicates much thoughtful observation and careful reasoning. The chapters on congenital dislocation of the hip, scoliosis, spinal caries, and one on the application of various forms of spinal supports, are especially worthy of mention. Mr. Keetley points out that he was the first observer to describe the condition now known as Coxa Vara. His paper appeared in the *Illustrated Medical News* of September 29th, 1888, and was entitled "A Case of Rachitis Adolescentium, in which the disease was for several years localised in the trochanteric and infra-trochanteric region of the right femur, and afterwards attacked the spine; wedge osteotomy for the femoral deformity, and plaster of Paris jacket for the spinal." There are a large number of excellent illustrations and diagrams, and the type is good. The work is one that will well repay careful reading.

ULCERATION OF THE BLADDER.†

THIS work is the result of the author's personal experience of a large number of these cases during a period of fifteen years.

---

*Orthopædic Surgery: a Handbook. By Charles Bell Keetley, F.R.C.S. London: Smith, Elder, & Co.

† Ulceration of the Bladder: Simple, Tuberculous, and Malignant. By E. Hurry Fenwick, F.R.C.S. London: J. and A. Churchill.

Indeed, its value is enhanced by the exclusion of statistics and reports of cases by other surgeons, for it now represents the opinions of a single worker in this field of surgery who has devoted much time, thought, and observation to the elucidation of very obscure conditions. In places where the author's views are in direct opposition to those of others qualified to speak with authority, a reference is made by means of a foot note, so that the reader can see for himself what is to be said on the other side. Simple ulceration of the bladder is fully described as a definite disease, for he says, "ten years of incessant practice with the cystoscope convinces me that our teaching on vesical ulceration requires modification. I am convinced that a simple spontaneous form of ulceration is met with, which is usually solitary, and which is wrongly diagnosed as tuberculous, and as wrongly considered incurable." The work is one that should be carefully read by all interested in the subject.

TRANSACTIONS OF THE GRANT COLLEGE MEDICAL SOCIETY, BOMBAY.*

We have to acknowledge the receipt of the Transactions of the Grant College Medical Society of Bombay for the year 1899. Seven papers of varying interest are published in full, foremost in importance being a report by Dr. R. Row of a series of bacteriological examinations of the soil in various parts of Bombay, with reference to the presence and growth of the typhoid bacillus. An interesting account of the "Jigger" parasite, a small insect or flea which burrows under the skin and sets up serious local inflammation, is contributed by Dr. Kalapesi; and other papers deal with certain gynæcological cases, the connection between the nose and the generative organs, the treatment of dysentery as known to ancient and modern Hindoo physicians, and ancient and modern aural practice in India.

---

* Transactions of the Grant College Medical Society, Bombay. From January to December, 1899.

THE AUSTRALASIAN MEDICAL DIRECTORY AND HANDBOOK.*

WE have received a copy of the fifth Edition of the Australasian Medical Directory, compiled and edited by Mr. Ludwig Bruck. The Directory contains the names, addresses, and qualifications of all practitioners residing in Australia, Tasmania, New Zealand, Fiji, Samoa, Tonga, New Hebrides and New Guinea. It also gives particulars of the Medical Schools of Australia and New Zealand, a Military and Naval list, and abstracts of the principal medical Acts in operation in the various countries mentioned above. The first edition of this useful compilation was published in 1883.

PRACTICAL URANALYSIS AND URINARY DIAGNOSIS.†

THE fifth edition of Dr. Purdy's excellent manual of urinary analysis has been carefully revised throughout, and contains in addition a good deal of new material. Foremost amongst the latter must be placed the description of the author's electric centrifuge, and the means by which it may be adapted to the preparation and examination of various urinary sediments. The use of this instrument for quantitative work is distinctly new, and tables are given by the aid of which the amount of albumen, chlorides, phosphates, and sulphates contained in the urine can be rapidly calculated from the quantity of sediment obtained after various chemical procedures. The section on testing for albumen has been very carefully reconsidered, and much care has been devoted to the points of distinction between the numerous forms of proteid material which may be met with. We note with especial interest that Dr. Purdy advocates boiling after the addition of saturated salt solution and acetic acid as the most reliable test for albumen. If, as he maintains, this test never brings down mucin or nucleo-albumen, it will prove a valuable substitute for the ordinary heat and acetic acid test of which this fallacy constitutes a serious disadvantage. A new chapter has been added on the choice and care of a microscope, but this does not call for detailed notice. The book is a very thorough and accurate piece of work, and cannot fail to meet with success.

---

* The Australasian Medical Directory and Handbook. Edited and Compiled by Ludwig Bruck. Fifth Edition. Sydney: L. Pruck, 1900.

† Practical Uranalysis and Urinary Diagnosis. By Charles W. Purdy, LL.D., M.D., Professor of Clinical Medicine at the Chicago Post-Graduate Medical School. Fifth Revised and Enlarged Edition. Philadelphia, New York, Chicago: F. A. Davis Company, 1900.

GOLDEN RULES OF SKIN PRACTICE.*

MANY excellent hints on the treatment of skin diseases are to be found in this little book. The subject is one that lends itself to concise statements and the laying down of definite rules, and there can be no possible objection to the manner in which Dr. Walsh has dealt with it. Resource in treating these diseases is, moreover, usually so limited that a compact series of practical hints and prescriptions such as are here to be found cannot fail to meet with due appreciation.

PUBLISHERS' DEPARTMENT.

New Inventions, Drugs, etc.

MESSRS. BURROUGHS, WELLCOME & Co. have sent us samples of several new preparations. Their "three syrups tabloid" contains:

Syr. Easton.
Syr. Hypophosphitum Co., aa ♏xv.
Syr. Phosphatum Co. (Parrish), ♏xxx.

---

*Golden Rules of Skin Practice. By David Walsh, M.D. (Edin.), Hon. Physician, Western Skin Hospital, London. Bristol: John Wright & Co.

This is, therefore, a very convenient method of administering these three compounds, all of which are very favourite ones with the profession.

Tabloid Calomel, grs. iii., hardly calls for any notice from us. It is always convenient to have it at hand in this form.

Tabloid Benzo-Naphthol, grs. v., will supply a want. The increased frequency with which antiseptic remedies are now ordered requires their preparation in some convenient form, especially as many of them are of unpleasant taste, and their administration in solution or suspended, as the case may be, is often very disagreeable. We have also been sent samples of hypodermic tabloids, viz.:

$$\text{Tab.}\begin{cases}\text{Morph. Sulphat., gr. }\frac{1}{4}\\ \text{Strych. Sulphat., gr. }\frac{1}{6}\text{ ; and}\end{cases}$$

$$\text{Tab.}\begin{cases}\text{Ergotin. Citrat., gr. }\frac{1}{100}\\ \text{Morph. Sulphat., gr. }\frac{1}{6}\end{cases}$$

These are useful forms in which to carry these combinations for hypodermic use.

New Books, etc., Received.

From W. B. Saunders & Co., Philadelphia—
- Lectures upon the Principles of Surgery. By Chas. B. Nancrede, A.M., M.D.
- The Pathology and Surgical Treatment of Tumours. By N. Senn, M.D.
- Fractures. By Carl Beck. M.D.
- Manual of Personal Hygiene. By Walter E. Pyle, A.M., M.D.
- An American Text-book of Physiology. Edited by William Howell, Ph.D., M.D. Vol. I.
- Clinical Examination of the Urine and Urinary Diagnosis. By J. Bergen Ogden, M.D.

From F. A. Davis Co., Philadelphia—
- Physiology of Sex. By Havelock Ellis.

From J. and A. Churchill, London—
- A Treatise on the Diseases of the Ear and Naso-pharynx. Second Edition. By E. Mark Hovell, F.R.C.S.

From Young J. Pentland, Edinburgh and London—
Edinburgh Medical Journal. Vol. VIII.

From Longmans, Green, & Co , London—
Transactions of the Clinical Society of London. Vol. XXXIII.

From H. K. Lewis, London—
Transactions of the Dermatological Society of Great Britain and Ireland. Vol. VI.

From G. Steinheil, Paris—
Anatomie Générale. Par Xavier Bichat.

From John Bale, Sons, and Danielsson, London—
Outlines for Dissectors. Four parts.

From Cassell & Co., London—
Plague. By James Cantlie, F.R.C.S.

From The Government Printing Office, Washington—
Index Catalogue of the Library of the Surgeon General's Office. Vol V. Second Series.

We have also to acknowledge the following :—
Injuries of the Eyelids and Eyeballs. By L. Webster Fox, M.D.
Intra Peritoneal Rupture of the Bladder. By W. Percy Blumer, F.R.C.S., Edin.

⁂ Authors can have reprints of articles at the following rates :—

Not exceeding 8 pages	...	8/-	per 100
,, 16 ,,	...	12/6	,,

The re-arranging of the type is the principal cost in the production of these reprints, so that smaller numbers will be the same price. Larger numbers at a proportionate reduction.

The Subscription to the *Birmingham Medical Review* is 6s. per annum, post free.

NOTICE.—*All Communications, Exchanges, and Books for review, should be sent direct to the Printers and Publishers Messrs. Hall and English, 36, Union Street, Birmingham.*

THE
BIRMINGHAM MEDICAL REVIEW.
FEBRUARY, 1901.

ORIGINAL COMMUNICATIONS.

TREATMENT OF LEAD POISONING BY ELECTRICITY.

BY J. AURIOL ARMITAGE, M.D.

Mr. President and Gentlemen,

I hope you will pardon me if I commence my paper with a few words of personal explanation. For some years we have had an excellent electric bath at Wolverhampton, under the same roof as the Turkish Baths, and I have for a long time taken advantage of it for the treatment of my patients; treatment, which, I need hardly say, has been strictly carried out under my supervision and direction. Two or three years ago, a group of cases suffering from optic neuritis, the result of lead poisoning, were sent over from the Potteries, on the advice, I believe, of Dr. Oliver of Newcastle. These cases benefited but little under the treatment adopted, partly due, no doubt, to the lack of medical supervision A little later, Dr. Oliver was appointed on the Royal Commission on lead poisoning, and I was asked if I would supervise the treatment of cases of lead poisoning sent from the Potteries. I consented on the understanding that no patient was sent except under the advice of a local medical man, and that all the details of treatment were left entirely in my hands. Since January, 1899, I have had about fifty cases, mostly selected by Dr. Prendergast of Hanley, and I feel that great credit is due to him for the care he has taken in sending those likely to profit by the use of electricity. Very few of the cases were recent, and nearly all had been under treatment for months, some for years, in short, to quote Dr. Prendergast's words—"They were the derelicts of the district." It is hardly necessary for me to say that the treatment at first was largely experimental, as the literature on the subject is distinctly limited, and in spite of the able assistance of the attendant at the Electric Bath, who has a practical knowledge of electricity of no mean order, I sadly missed the skilled help which I should have been able to secure in a hospital. I hope, therefore, you will make allowances for deficiencies in accurate information ; especially, as it was only gradually that I learned the full value of the treatment. It would be quite impossible for me within the limits of this paper, to go minutely into the effects of lead poisoning generally, but I think there is no doubt that these vary greatly in different districts according to the kind of lead employed and the special occupation of the patient. In very few cases did I find albuminuria, and in none have I been able to detect lead in the urine. This is quite contrary to the experience in some districts, but it may be partially accounted for by the fact that the majority of the cases were of long standing before they came under my notice. The sexual history was invariably bad The women habitually aborted, or if the child was born alive, it rarely lived long. The same was the case, though not to the same extent, with the wives of the male patients, even though the women never went near the lead factories themselves. The principal conditions with which I had to deal were "wrist drop," often absolute, affecting all the extensors of the wrist and fingers, and in some cases even the flexors ; "ankle drop," affecting the peroneal muscles and the long extensors of the toes. Paralysis of the deltoid also occurred, but not so commonly. Lead gout in the various joints was a frequent condition, also tremors. Anæmia and weak action of the heart occurred in a great many cases as a complication. Some of the special cases I will allude to later on.

Apparatus.—An ordinary large porcelain bath carefully insulated. Special care has to be taken to insulate the pipes of inflow and outflow, as without this precaution a good deal of the current is lost. A large carbon at the foot of the bath formed the negative electrode, but no other electrodes are fixed. A small carbon, wrapped in linen rag and moveable, is used as the positive electrode. The battery which I chiefly employed was one of 120 large Leclanché's cells coupled up in threes, and, when freshly charged, giving an electro motive force of about 60 volts. I had also a battery of 100 Leclanché's cells coupled in twos, and giving a slightly higher voltage, but I only used this occasionally. It is practically impossible to form any accurate notion of the strength of the current received by the patient when lying in the bath in the ordinary way, as a variable amount passes through the water by his side, and is, therefore, wasted. This amount depends upon the conductivity of the water and the resistance of the skin. The dipolar bath has, however, great advantages in the painless and easy manner in which the current is distributed over the whole body; and the greater want of accuracy is not of so much importance from a clinical point of view, as one of the first facts to be learned in hydro-electro therapeutics is that electricity cannot with advantage be measured out in fixed doses like drugs. The dose required varies with what I may call the electric affinity of the individual patient, and can only be fixed by careful experiments in each case, and even then it varies through very wide limits during the course of the treatment. For instance, the number of cells required to produce the desired effect at the commencement of treatment varied from 84 to 120, while at the close a number varying from 24 to 60 gave the same result. The feelings of the patient were my guide, as I found that the best results were obtained when the electric current reddened the skin without causing actual pain. The time of immersion in the dipolar bath was about fifteen or twenty minutes. Some idea of the strength of the current may be gathered from the following measurements, taken before the patient entered the bath. With 84 cells and the electrodes three feet apart in the water the galvanometer registered 120 milliamperes. Of course only a small portion of this passed through the patient, and by far the larger portion was lost by the resistance of the skin and by passage through divergent channels. In every case I also used the monopolar bath, the negative pole being still the large carbon fixed at the foot of the bath, while the positive pole was a brass bar laid across the bath outside the water, and grasped by the patient. In this case, of course, the whole current passed through the patient, and the measurements, as read by the galvanometer, averaged one milliampere for each six cells used, or twenty milliamperes for the whole battery. These measurements were not taken when the battery had recently been charged, but when it might fairly be expected to have about its average voltage. The cells required in the monopolar bath varied from 30 to 84. In addition I had a coil driven by 24 large Leclanché's cells, and in cases of wrist drop I made use of small baths for local treatment.

Usual Routine of Treatment.—I have endeavoured as far as possible not to complicate the electric bath treatment by the use of drugs, but I have had to treat special conditions in several patients with the remedies usually employed in such cases, apart altogether from the question of lead poisoning. I have carefully avoided the use of specifics such as Potassium Iodide, partly because they had already been exhibited freely without much apparent benefit, and partly because I wished to ascertain how far the improvement depended on the electric bath treatment. In all cases the dipolar bath was employed, the water at a temperature of about 98°F. covering the patient completely, except the head. In all cases the monopolar bath was also used, and in every case to a certain extent, and in many to a considerable extent, a peculiar deposit of a greyish-black colour was noticed on the bar. This deposit I at first believed to be a lead salt, and my belief was confirmed by an examination I made of the deposit in one of my early cases.

This was a man who had come to me from some japanning works in Wolverhampton where lead was employed, and who was undoubtedly suffering from lead poisoning, having the characteristic blue line in the gums and typical lead colic. When he used the bar in his first electric bath there was an unusually copious deposit, which I took away for analysis. I failed to detect lead by macroscopic methods, but, in conjunction with Dr MacMunn, I obtained the characteristic crystals of lead salts by microchemical methods; and though, no doubt, there was a possibility of some traces of lead being contained in the brass, yet I felt that some had undoubtedly been extracted from the patient. On thinking it over, I was not satisfied with the result, the weak factor being that the lead was deposited on the positive pole instead of on the negative, as one would naturally expect. I could find no lead whatever on the negative pole, which had not been touched by the patient, but which was fixed at the foot of the bath. To settle the point I had a bar gilded, and employed it in a series of cases of old standing from the Potteries, and the town analyst kindly reported on the resulting deposit. It consisted entirely of cupric oxide, which had come through the gilt, and organic matter. I also used a small arm bath in several cases without changing the water, and neither the electrodes nor the water showed the slightest trace of lead. I came, therefore, to the conclusion that the lead found in the first case, which was recent, had been deposited on the bar from the patient's hands, and not extracted from the body. The curious fact, however, remains, that in cases of lead poisoning a well-marked greyish-black deposit is left on the bar, that this deposit decreases as the patient improves, and finally disappears, that no such deposit is left in healthy patients, except in a few cases where a very strong current is employed, and then it is lighter in colour and not copious—that a deposit of similar character, but lighter and less copious, occurs in cases of rheumatism and gout. I am at a loss to account for this phenomenon satisfactorily, and should most cordially welcome a solution. I have formed a theory on which I will touch later, but it is only a theory, and I am not at all convinced of its accuracy. After the general bath has been used for some days, the number varying with the severity of the general symptoms, I turn my attention to the parts specially affected. If the lower limbs or the upper arm are implicated I use a paddle electrode in the large bath, and apply it as a positive electrode to the lumbar or cervical regions as the case demands, and still later use it directly to the muscles affected. The cases of wrist drop, which form a considerable proportion of the total, are early relegated to the small baths, where the same treatment is adopted. In nearly all cases of muscular paralysis I have supplemented the constant current by the use of the coil, driven by twenty-four large Leclanché's cells, and have found it of great service, especially when the muscles have nearly recovered. In many cases of wrist drop, after full extension of the wrist could be made, I found great difficulty with the fingers. These became stiff, and the extensors of the fingers steadily resisted treatment. I got over this difficulty by the use of short splints, worn for about eight hours in the day. The patients come every day for treatment, and always finish with a short Turkish bath.

Results of Treatment.—In considering results, one or two facts must be taken into consideration:—(i.) The patients are all in lodgings, practically outside control, and in some cases have taken advantage of this liberty to do things which have seriously militated against their rapid recovery. Late hours, drink, and standing on the damp ground at football matches have caused not a few relapses. (ii.) Many of them having wives and families practically destitute have insisted upon returning home before they were completely cured. Notwithstanding these drawbacks, Dr. Prendergast of Hanley, in giving the report of the Committee of Investigation in the Potteries last March, credits me with 37 cures, either partial or complete, out of 40 cases sent up to that date.

Typical Cases.—The following short notes of a few fairly typical cases may be interesting:—(1) Anne M., 42, female, single, Hanley, had been a ware cleaner for over twenty years. She had had lead colic twice during this period; each attack lasting a few weeks. About 1896 she was admitted as an in-patient to the North Staffordshire Infirmary suffering from lead colic and commencing paralysis of the extensors of the fingers. She only remained under treatment a month, and going back to her work gradually got worse, till early in 1898 her hands were quite useless. She was sent into Derbyshire in August, 1898, but came back no better. She came to Wolverhampton at the end of January, 1899. She appeared to be a woman of over sixty, very anæmic, and generally unhealthy. Her teeth were decayed, and her gums very much swollen. She had complete wrist-drop in both hands, and the extensors of her fingers were also completely paralysed. The peroneal group of muscles were also slightly affected. At first, the extensors of the wrists and fingers would with difficulty react to any electric stimulus, either galvanic or faradic. She was under treatment for three months, and went home looking twenty years younger, and with the wrists completely cured and the fingers almost completely. She was one of the first batch of cases sent to me, and the details in treatment were only arrived at by experiment, so that I have kept no record in her case of the number of cells used, nor did I employ splints to her fingers. I have specially recorded this case because I saw her in March, 1900, quite well and earning her living as a charwoman.

William N., 40, Union Street, Hanley, had been a glost placer for 15 years; he had suffered from wrist-drop for two years; was an out-patient at the North Staffordshire Infirmary for three months, and for 18 months had been using a small Faradic battery, but without any material improvement. He had lost his sight for about five days and had various other temporary manifestations of lead poisoning during the time. He came to Wolverhampton, January 8th, 1900. Height, 5 feet 9½ inches; weight, 9 stone 9 pounds He had wrist-drop very badly in both hands, and the fingers were very much bent. One knee was badly swollen, and the peroneal and calf muscles of both legs were wasted and partially paralysed, causing a good deal of difficulty in walking. He commenced by taking 120 cells in the dipolar bath without feeling any material discomfort, and on March 14th, when he went home cured, 48 cells produced the same effect.

With the bar in the monopolar bath he commenced with 84 cells, giving a current of 14 milliamperes. After the first week, he had the positive pole applied to the lumbar region for the legs and to the cervical region of the spine for the arms in the dipolar bath. Later, I applied the negative pole to these regions and used a small carbon as the positive pole to brush the muscles affected. During the last month of treatment, a coil driven by 24 large Leclanché's cells was used both for arms and legs, and the fingers splinted for eight hours every day. His weight on March 14th, was 10 stone 8 pounds, a gain of 13 pounds; his wrists and fingers were straight and freely moveable, his knees and muscles of his legs perfectly normal, and he had no difficulty in walking. He could have gone home a week or ten days earlier, but I kept him to show at a meeting of medical men at Trentham, on March 14th.

Hugh M., 41, Regent Road, Hanley, had lead colic thirteen years ago, and has since then had frequent attacks of lead poisoning. He came to Wolverhampton on January 15th, 1900, having been under treatment for eighteen months for this attack. He was at first an in-patient at the North Staffordshire Infirmary for three weeks, and for the rest of the time had regularly used a small Faradic battery. Height, 5ft. 6½in.; weight, 7 stone 12lb. Wrist-drop in both hands, in one very severe. Very bad lead tremors. His hearing a good deal affected. Heart very weak; the first sound could scarcely be heard except at the apex. General malaise so marked that Dr. Prendergast had some hesitation in sending him away from home.

The treatment was similar to the last case. He started with 120 cells in the dipolar bath, finished with 72; he had also monopolar bath, coil, and splints for the fingers. I gave him a mixture containing strophanthus for the first fortnight. On March 14th he went home cured, hearing perfect, heart sounds normal, no tremors, wrists and fingers normal, and his weight 8 stone 10lb., having gained 12lb.

Jane B., married, aged 28, Dresden, worked from the age of 17 as ground layer, and had suffered frequently from colic, vomiting, and loss of appetite. She had had five miscarriages and two children living, both very delicate. She worked till September, 1898. Immediately *after* stopping work her hands and legs began to ache, and her legs felt so heavy that she could hardly drag them after her. Then the dorsal surfaces of her hands and feet became swollen and inflamed, later still her legs and knees swelled considerably. She was an in-patient at the North Staffordshire Infirmary for twenty-two weeks from March, 1899. Her muscles became very much contracted, and she was completely crippled. After leaving the infirmary she was taken to Buxton on a stretcher, but, while her general health was somewhat improved, there was no change in the local condition. She was brought to Wolverhampton on a stretcher in the guard's van in January, 1900, in the hope that she might get some relief. Her condition when I first saw her was a pitiable one. One knee was fixed at right angles, the other at about an angle of 120°, the quadriceps extensors of both legs were completely wasted, as were also to a less extent all the muscles of the legs; the knee joints were enormously swollen, and practically immoveable. The feet were also very swollen, all the joints enlarged, and the ankles nearly as stiff as the knees. All the joints of the upper limbs were similarly affected, the wrists were completely anchylosed, the elbows partially, the shoulders stiff and swollen, and the backs of the hands with the metacarpo-phalyngeal and the interphalyngeal joints all swollen and fixed in abnormal positions. She could only lie in a semi-recumbent position with the legs drawn up. She could not raise her hand to her head; it was with great difficulty that she could feed herself. She could not make the slightest attempt at either standing or walking, and screamed with pain when moved into a bath chair, or from the bath chair into the bath. The value of records in this case was very much destroyed by the hysteria of the patient. She had a number of cells in the dipolar bath varying from day to day between 36 and 120, sometimes more, sometimes less. She also had the coil, and I found massage for the limbs of great service. In a fortnight's time, she was able to raise her hand to the back of her head easily. In a month, one knee began to yield, in seven weeks, the other followed suit. In eleven weeks, the wrists were straight. Then there was a considerable period of no improvement. She was eight months under treatment, and at the end of that period, both knees could be completely straightened and both shoulders were right, one elbow could be straightened, the other was improved, the left ankle was right, the right improved. She could walk a few yards. She was so hysterical, and so evidently anxious not to be cured for fear of being sent home where she was very unhappy, that I sent her back with the intention of her returning for a definite period next year to continue the treatment. I do not think a cure is possible in her case, but I believe she is capable of further improvement; and she went home in a very different condition from that in which she came.

John H., married, age 59, worked in lead thirty-six years, he has had four children, three of whom only lived a short time. In March, 1899, the left leg began to be affected, and he had to walk with a stick; he had pains in the sole of his foot, which he described as smarting and jumping. The right leg soon followed suit, and they both swelled at night. He was under treatment off and on for over twelve months, but steadily got worse. He came to Wolverhampton on October 15th, 1900. When I saw him he walked with a marked ataxic gait, and could only go two or three yards, and that with two sticks. On putting his heels together and shutting his eyes he at once fell backwards. The patellar reflexes were abolished; there were no Argyle Robertson symptoms. He was treated partly with the current from the main, which is a constant current, partly with the same battery as the others, and he took with ease the whole 120 cells in the dipolar bath. On November 22nd he could walk a mile with the aid of sticks, he could walk about the house unaided, the gait, though still ataxic, was much less marked, the patellar reflexes were still practically absent, but he could stand erect with his heels together and his eyes shut. At the present time he is still improving.

Other cases that call for brief mention are Robert H., who suffered from general malaise and rapidly progressing emaciation, he was under treatment for twenty-four days, and gained 20lb.

Simeon B., who was under treatment for colic for a month, returned home cured, went back to lead dipping, and in two months had left hemiplegia, for which he was under treatment nearly two months, and went home practically cured.

Joseph S., who had had his hands clenched for two years, and returned home cured after a week's treatment.

Deductions.—One thing has specially attracted my notice, and that is, that not only are cases of wrist-drop and joint affections very much improved, but some of the most rapid and successful cures have been in those who have had severe colic of long standing, and heart failure. I do not think that the well-known general properties of the electric bath will fully account for the rapid improvement, and I am inclined to think that there is a distinct probability that the lead salt is split up in the body by the electric current, and that the lead forms new combinations. The lead in the body is probably in the form of a lead chloride combined either mechanically or chemically with albumen. This is the conclusion to which Dr. Oliver came after careful investigation. This compound when exposed to a fluid like the blood, would yield a lead chloride which would be carried gradually into the liver and would circulate through the body causing the different manifestations of lead poisoning. Its action on the blood is to materially reduce its alkalinity, and consequently, much less urea and uric acid are excreted. When then a strong constant current is passed through the body, it is quite conceivable that the lead salt should be split up, the acid being attracted to the positive pole, and the metal forming new insoluble and stable compounds. This would help to explain the black deposit on the bar, owing to the action of the acid upon the copper causing a copious deposit of oxide of copper mixed with organic matters. I do not think that the lead can be rendered more soluble by the electric current and then rapidly excreted, as in this case we should expect to find a temporary exacerbation of the symptoms which I have never observed, nor have I detected lead in the urine, at any rate in any quantity. It is also a significant fact that if a patient who has been cured by electricity goes back to work in lead, he very rapidly falls a victim again to lead poisoning, and this second attack is, in my experience, more severe than the previous one; while I have not yet had a case of relapse after cure in a patient who has not returned to the lead. I feel that this explanation is very hypothetical, and I only hazard it till I find a better.

THE DIAGNOSIS OF SOME FORMS OF NASAL OBSTRUCTION.

BY WILLIAM LAMB, M.D. ED., M.R.C.P. LOND.

PART II.—SPECIAL.

ATTENTION having been directed to the nose, and the existence of obstruction established, let us see how some of the varieties may be distinguished from each other. A useful practical classification to bear in mind is that which divides obstructions into hard and soft—according as the bony and cartilaginous framework or the mucous membrane is involved—and anterior and posterior, according to the situation. It is not a complete classification by any means, for obstructions in the middle region of the nose are also quite common, but it may serve to arrange one's ideas in examining cases.

There are three forms anterior of obstruction which may be diagnosed by simple inspection. They are—

(1) *Collapse of the alæ*, which occurs from long disuse, as in old adenoid cases. The entrance of the nostril may be reduced to a mere slit between the plica vestibuli and the septum. Sometimes there is a slight dimple on the outer surface of the ala—the result of atmospheric pressure on the least resistant point, viz., the interval between the lateral cartilage and the cartilage of the aperture.

(2) *Dislocation of the cartilage* of the aperture or of the septum. The fact of displacement is always obvious, although its precise nature may not be so easily made out. In the case of the septal cartilage there is always bending or deflection from the median plane in addition to displacement.

(3) *Cicatricial contraction* of the anterior nares, as from Lupus, Syphilis, or Scleroma.

Coming now to the interior of the nose, the observer will require (1) a good artificial light, (2) forehead and post-nasal mirrors with which to reflect it, and (3) a probe for palpation.

The simplest and most frequent form of nasal obstruction is that due to *congestion of the erectile tissue*, which is distributed chiefly on the inferior turbinated body. The nose may look perfectly normal on inspection, and in nervous patients—especially women—the turbinals may even appear shrunken and collapsed, just as much so as if they had been cocainised. The patient will tell you, however, that she suffers from "stuffiness," which varies at different times, now one nostril being blocked, and again the other. It is worse on lying down, as at night, the dependent nostril is generally the worst, and the mouth is dry on waking in the morning. Active exercise, especially pleasurable exercise such as dancing, often relieves or entirely removes the "stuffiness." If the nose be inspected after the patient's nervousness has passed off, the lower turbinal on one or both sides will be seen to be swollen, lying very likely in contact with the septum and blocking the meatus. When touched with a probe the swollen turbinal feels like a bag of liquid, filling out instantly when pressure is removed. If cocain (10 per cent. spray) be applied to the swollen turbinals, they quickly shrink, and this test completes the diagnosis. I am indebted to my friend, Mr. Mackie, of Nottingham, for an extremely interesting observation of a case in which turbinal engorgement of this sort alternated with Urticaria of the face. Many cases of hay fever show only the signs of this form of obstruction.

Combined with vascular engorgement there is often a good deal of *permanent thickening* or *hypertrophy* of tissue, the result of chronic rhinitis, and this can only. be partially reduced by cocain. The hypertrophy may be fairly uniform, so that the parts, to a casual observer, simply look enlarged and reddened; but generally the change is much more pronounced at certain points, especially the anterior and posterior extremities of the two lower turbinals.

As *hypertrophies of the lower turbinal* are the most frequent, and the most important as causes of nasal obstruction, we will consider them first. The *anterior end* may be most affected, and sometimes becomes so large as to be easily seen without a speculum, projecting into the vestibule as a firm swelling, completely blocking the nostril. In such a case, the part exposed to the air becomes grey in colour and is generally finely lobulated; but anterior hypertrophies very rarely attain this size, and a moderate degree of tolerably uniform enlargement is usually all that is found. The most extreme case of anterior hypertrophy I ever saw was in an old gentleman of 72, and occurred to me some twenty years ago when less was thought of nasal obstruction. The growth was so prominent that it was quite easy to snare and twist off a large piece on each side, thus freeing both nostrils, to the patient's great relief.

Hypertrophies, as a rule, are red like the surrounding mucous membrane; it is only when they become pendulous and œdematous that they assume the appearance of polypi, perhaps I ought rather to say, become polypi. They sometimes form a sort of *irregular fringe* along part or the whole of the free border of the lower turbinal, but this is not a common form, and in my experience has generally been connected with the irritation of old suppurative processes in the sinuses or meatūs. Very much more frequently the *posterior end* of the lower turbinal is affected, and forms a sort of globular enlargement, which is often œdematous and has a slightly constricted neck. In colour this *posterior hypertrophy*, as it is called, is generally of a light bluish-grey, like a polypus, but its surface is not usually smooth like that of a polypus, but is covered with little projections, which, however, may be obliterated by a tense œdema. In chronic cases the projections are larger, and the swelling often closely resembles a raspberry in shape, hence the name "*raspberry hypertrophy*;" or, again, it may be very vascular and purplish from enlarged veins, and is then called a "*mulberry hypertrophy*." A very vascular enlargement of this sort sometimes furnishes a certain amount of blood-stained secretion, which is drawn back into the mouth and expectorated, giving rise perhaps to a suspicion of hæmoptysis; but the nasal origin of the spit is generally easily traced. Posterior hypertrophies cannot, as a rule, be seen from the front, but they are often easily seen from the back with the post-nasal mirror. Probably this is because they press upon the soft palate and produce a paretic condition of the muscles, which is favourable to examination. It is fortunate when they are easily seen, for very frequently they cannot be felt by the finger in the naso-pharynx, even when they are of considerable size. They retreat in front of the finger tip, and cannot be perceived. If you ask a patient with a good-sized posterior hypertrophy to inspire through the obstructed nostril, he can often do so fairly well, and you may be able to pass an instrument such as a Eustachean catheter or a brush of wadding freely through into the throat; but if you ask him to expire through the same nostril, there is frequently an absolute block. This is due to the globular hypertrophy acting like a ball-valve. The air-stream blows it forward and it blocks the nostril. When present in a typical fashion, this sign is extremely suggestive of posterior hypertrophy. It may occur with a polypus, but polypi are not generally in a position to produce such a perfect valve action. They are attached higher up, are nearly always multiple, and they can generally be seen from the front. When the post-nasal mirror is not available, this *ball-valve sign* may be of use. A small hypertrophy, of course, will not yield it, nor will every large one, for a certain amount of mobility is necessary for its production.

The middle turbinated body is affected by hypertrophy in a somewhat similar way to the inferior. *Hypertrophies of the middle turbinal* are much less important than those of the inferior as causes of nasal obstruction, but they are much more important as indicating very frequently the existence of chronic suppuration, involving one or more of the anterior group of accessory cavities—antrum, frontal sinus, anterior ethmoidal cells—which all discharge under cover of the middle turbinal.

The *anterior end of the middle turbinal* may show a *fairly uniform enlargement*, involving sometimes both bone and soft parts, and hanging down like the flap of a table, over the middle meatus. Very often, however, hyperthrophies in this situation are multiple, lobulated, and œdematous, resembling polypi. Such *polypoid growths* are most frequently seen crowded up near the anterior attachment of the middle spongy bone, but sometimes they fringe a considerable part of its lower border; and this is not to be wondered at when one remembers how often this free border is soaked in pus in cases of sinus suppuration.

Rounded posterior hypertrophies occur on the middle as on the inferior turbinal, but more rarely.

When a piece of hypertrophied nasal mucous membrane grows out from its base sufficiently to be pedunculated, it quickly becomes pendulous and œdematous, and is then undistinguishable from a *polypus.* No hard and fast line can be drawn between the two; they are generally only different stages of the same inflammatory process. I do not know that this explains absolutely every case of nasal polypus, but it certainly explains a great many. The bluish grey translucent appearance of fully developed polypi is very characteristic; they are commonest in the middle region of the nose—the middle turbinal and adjacent parts. When exposed at the entrance of the nostril a polypus becomes grey and opaque, and sometimes rather more vascular, but as a rule a vascular-looking growth in this situation—the anterior nares—should be viewed with suspicion, as it is probably malignant.

This caution does not apply so much to the posterior nares, in connection with which two forms of growth must be kept in mind, in addition to the common mucous polypus. They are (1) The *fibro-mucous polypus*—really a soft fibroma—a softish bluish growth, generally solitary, growing by a long slender pedicle from the edge of the posterior nares, and very freely movable; (2) The *fibrous tumour of the naso-pharynx*, a firm fixed growth, springing by a broad pedicle from the base of the skull, red in colour, highly vascular, frequently causing epistaxis, growing only during the period of adolescence, and shrinking in adult life, it is said, if the patient survive long enough.

Both these forms of growth are sometimes visible from the mouth, pushing forward the soft palate and projecting beyond it.

Most of the obstructions I have mentioned, so far, are connected with the outer wall or roof of the nasal cavity; let us now look for a moment at the inner wall, *i.e.*, the septum, and the floor of the nose.

Hypertrophy of the mucous membrane of the septum is not a common cause of serious nasal obstruction. It occurs chiefly in two situations.

(1) At the so-called *tubercle of the septum*, a mass of glands opposite the anterior end of the middle turbinal. (2) *Close to the posterior edge of the vomer* on each side. This latter form is occasionally associated with adenoid growths, and may account for the continuance of a degree of nasal obstruction after the adenoids have been removed. It appears in the mirror as a triangular thickening of a pale pinkish colour on each side of the septum.

Much more important than these soft obstructions on the septum are changes in the cartilage and bone. The most frequent form of hard obstruction is that produced by ***prominent ridges*** or ***crests***—"***spines***" as they are called. They generally begin in front close to the floor of the nose, and run upwards and backwards along the line of junction of bone and cartilage, sometimes extending beyond the cartilage as far as the body of the sphenoid. Frequently the obstruction is increased by ***deflection***, or even crumpling of the septum, and there is generally considerable thickening over the convexity of the curve, so that the thickened part of the septum may come to press against the lower turbinal, causing it to atrophy, or grooving it lengthways, and greatly obstructing the passage. Ridges or "spines" may be readily measured by means of a bent probe, and deflections and thickenings must be estimated by careful inspection of both nostrils.

Another obstructing swelling which occurs most frequently on the septum, but also on the floor of the nose, is the ***gumma***. It appears as a smooth projection which soon begins to ulcerate on the top. There is a history of recent nasal obstruction.

Hæmatoma and abscess of the septum generally follow injury, and are easily traced to it. Chronic abscess is rare, and suggests caries or perichondritis, the latter occasionally following typhoid fever.

No one can practise nasal surgery for any length of time without observing that a degree of nasal obstruction is found in a good many persons who exhibit no striking nasal abnormality, but only a ***general narrowness of the framework of the nose***, which is frequently high in the bridge and of the aquiline type. There may be no redundancy of soft tissue, and no undue projection of bone or cartilage, but the chambers are ***built narrow***, so that very slight degrees of swelling produce marked obstruction. You will find little about these cases in books, but they are by no means rare in practice. This condition is sometimes spoken of as ***congenital***, and it probably is so to some extent; but it must be borne in mind that, given a degree of congenital obstruction at the anterior nares, such obstruction would naturally and inevitably increase in process of growth: firstly, because the diminished atmospheric pressure, which of necessity exists behind an anterior obstruction, would lead to swelling of the mucous membrane of the nose—a sort of continuous cupping or suction action being exerted upon it: and secondly, because the atmospheric pressure upon the yielding nasal box being greater outside than in, would tend to drive in its walls and lessen the capacity of its cavities.

The mention of undue narrowness of the nose brings to mind another cause of nasal obstruction, viz., *adhesions between the turbinals and the septum.* These generally result from the healing of ulcers caused by the galvano-cautery—either from the want of careful after treatment, or from the use of the cautery in unsuitable cases, such as those I have just mentioned where the narrowness is in the bones, so that the lower spongy bones closely approach the septum, even when the erectile tissue is empty. *Adhesions and cicatricial contractions about the posterior nares*—between the soft palate and posterior wall, &c.—are generally the result of syphilitic ulceration. Diphtheria has also been an occasional cause of obstructive adhesions.

Congenital occlusion of the posterior nares has been recorded in about fifty cases. It may be membranous or bony, and may involve one or both nostrils. The diagnosis is made with the probe and post-nasal mirror, helped by the finger in the naso-pharynx.

Congenital enlargement of the pharyngeal tonsil—*congenital adenoids*—is more frequent than congenital occlusion of the nares. The early recognition and removal of these conditions is obviously of the greatest importance to the child's health and development.

In children, and in insane persons, *foreign bodies* are frequently introduced into the nose, and may give rise to obstruction together with a unilateral discharge of pus. In sane adults, the presence of a rhinolith, or nasal stone, causes the same symptoms.

THE MANAGEMENT OF LABOUR COMPLICATED BY CHRONIC HEART DISEASE.

BY W. A. POTTS, B.A. CANTAB., M.D. EDIN., M.R.C.S. ENG.,
LATE RESIDENT SURGEON ROYAL MATERNITY AND SIMPSON MEMORIAL HOSPITAL, EDINBURGH.

CHRONIC cardiac disease is one of the most serious complications of pregnancy, labour, and the puerperium. The subject in recent years has received considerable attention from obstetricians: as the result of extended observation, opinion is becoming more unanimous with regard to the causes of danger, and the best methods of dealing with them. I propose in this paper to consider the effect of chronic cardiac disease on labour and the means available for minimising the risk involved.

Pregnancy is a grave misfortune for any woman suffering from chronic cardiac disease; such an one may suffer much during the term of gestation; during labour and the early part of the puerperium she will run a serious risk to life; should she survive the ordeal, it will ultimately be found that the cardiac condition has not improved; possibly it will be greatly aggravated in consequence of the extra strain that has been thrown upon the heart for so long a period.

Cases have been recorded which include every variety of cardiac complication; affections of the right side of the heart, however, are very rare. Of those more frequently encountered, aortic lesions are the less serious, involving a mortality ranging from 11·7 per cent., as recorded by Remy, who had experience of seventeen such cases, to 23 per cent., as recorded by Porak, who had observed thirteen. When mitral disease exists, either by itself or in conjunction with aortic disease, the outlook is more unfavourable; somewhat curiously, mitral stenosis, uncomplicated by any other lesion, affords the worst prognosis of all, the mortality ranging from 46·6 per cent., as recorded by Sears, with experience of fourteen such cases, to

64·4 per cent. as recorded by Macdonald, who also had investigated fourteen cases. It is in mitral disease, too, that the health of the fœtus is more likely to be impaired, "both from the imperfectly oxygenated condition of the maternal blood, as well as from the destruction of portions of the placenta by hæmorrhages into it from the maternal vessels."

Death of the mother occurs most frequently during the second stage of labour or the early puerperium. It is important, however, to distinguish the time of greatest risk associated with the different lesions. In cases of aortic disease, for the reasons to be presently explained, serious symptoms, such as dyspnœa and great cardiac irregularity, develop during pregnancy, and, becoming worse and worse, reach a climax during labour; once that is satisfactorily terminated all trouble quickly ceases. On the other hand, in mitral disease symptoms of disturbed pulmonary circulation, such as dyspnœa, pulmonary catarrh, pulmonary œdema, and general œdema, may develop at any time during pregnancy or labour; they attain a maximum during labour, but do not necessarily abate after it is over; sometimes they develop for the first time in the puerperium. When the cardiac disease is of recent origin the risk to life is considerably greater than when it has become chronic, because the degree of compensation will be less and there may be acute inflammatory changes in the endocardium; there is, of course, a danger of increase in the valvular vegetations that may be present owing to the increased fibrin-forming tendency in the blood, and there is a further possibility of embolism. It should be mentioned that at the present time the mortality is almost certainly less than that indicated above, partly owing to the fact that operative interference is undertaken at an earlier stage, and also to improved antiseptic and aseptic technique, for some of the deaths during the puerperium may have been, in part at least, due to septic complications, to which these patients are especially susceptible. Hirst even goes so far as to say that he has treated many cardiac cases and never had a death.

The consideration of the etiology of the cardiac disease does not come within the province of this paper further than to say that many cases are rheumatic in origin; others date from one of the infective fevers, and it is important to bear in mind the steadily advancing form of valvular endocarditis from early girlhood first pointed out by Lebert and insisted on by Macdonald. I have myself had experience of two such cases.

Treatment during pregnancy must follow the usual hygienic lines; regulated exercise, careful dietary, a proper amount of mental and physical rest and a full amount of sleep are all important; should cardiac symptoms develop strophanthus, digitalis or strychnine must be administered; when the condition is serious rest in bed is essential; if abortion threatens it must be treated in the usual way; unfortunately it may be as disastrous as a full term labour. It will be well now to pause for a moment and consider the great risk of overlooking the cardiac disease at an early stage, when there are as yet no distinctive symptoms but only a splendid opportunity for prophylactic treatment. Heart disease as a complication of pregnancy is so rare, and so many women do so well without any medical assistance at all, that there is a serious temptation to ignore the grave responsibility that undertaking the charge of a pregnant woman involves. Frequently no systematic examination is made, or one that is perfunctory in the extreme; should any cardiac abnormality be detected the tendency is to consider it functional and consequently unimportant, so general is the belief that hæmic murmurs and even other cardiac irregularities are a necessary accompaniment of pregnancy. I can, however, confirm the fact first insisted on by Macdonald, that in many cases in pregnancy the heart sounds are pure. No doubt there is always some dilatation and hypertrophy of the heart, as observed by Angel Money and many others, and a nice discrimination is often required to decide whether any permanent change has occurred or not; but even if irregularities are functional, they are frequently also pathological; anæmia may explain many symptoms, but does not excuse their neglect, and is itself a condition which demands serious attention. It is lamentable when the first suspicion of cardiac mischief arises during labour itself, at a time when a careful investigation and diagnosis is often impossible, although a knowledge of the real state of affairs is of fundamental importance. There is more than one case on record in which no preliminary investigation had been possible, and where in consequence treatment that under other circumstances should have been crowned with success, served but to court disaster. The art of obstetrics is daily becoming more and more prophylactic in nature and with gratifying results; witness the diminished dread of puerperal fever and of the necessity for craniotomy; in no condition, however, is forethought better rewarded than when the complication is cardiac in nature.

To return to the ordinary course of pregnancy in these cases, it should be noted that frequently there is excessive discomfort during the early months; troublesome symptoms may abate during the mid-term of gestation, but usually assert themselves again towards its close, and may give rise to grave anxiety; there is to an extreme degree breathlessness on exertion, palpitation, dyspepsia, flatulence, loss of sleep and appetite, œdema, albuminuria and sometimes partial or complete suppression of urine. Hence arises the question of inducing labour; this is seldom advisable; usually in extreme cases labour commences spontaneously somewhat prematurely to the immediate relief of the patient, but the result is far otherwise if it is artificially induced; such a proceeding indeed has almost invariably led to a disastrous termination. In one of my cases where the condition was highly critical during the latter months of pregnancy, there being ultimately anasarca of almost the whole body, in addition to a considerable degree of albuminuria and other unfavourable symptoms, the question of terminating the pregnancy had to be seriously discussed; the patient was, however, let alone, and labour commenced spontaneously a fortnight before the expected time; there was at once great relief, and although the patient nearly succumbed shortly after delivery she ultimately recovered. Even in such an extreme case it is well to trust to nature; an exception must be made, however, in cases of hydramnios, when the membranes should be punctured as soon as serious symptoms develop; it is well to make the opening inside the uterus and as far as possible above the lowest pole of the bag of waters, so that only a limited amount of the liquor may drain away; should this not afford sufficient relief and labour not begin, it may with benefit be induced by other means.

Before considering the management of labour in these cases, it will be well to reflect what are the special pathological conditions present; how do the risks arise? This question has excited much animated controversy, one school asserting that death occurs from syncope, the other that it results from an engorged right side of the heart; this latter theory is now generally established; the former, however, demands a passing consideration. It is based on the fact that the majority of deaths occur immediately or shortly after the termination of labour; it presumes that immediately after delivery, the abdominal vessels, especially the veins, which had previously been greatly compressed, suddenly dilate; thus a quantity of blood is withdrawn from the heart, which not having sufficient fluid to thoroughly stimulate contraction, begins to act irregularly and quickly fails. This theory, however, does not explain death during labour, and yet death during the second stage is not infrequent; neither does it help us to understand why death should occur as readily after an early abortion. No *post-mortem* examination has substantiated it; on the contrary, Berry Hart, on examining a patient with mitral stenosis, who died immediately after delivery, found the heart not empty, but dilated, the right side being engorged. That this should be the condition found, is suggested by the fact that in aortic cases the prognosis is not so grave as with mitral lesions. We may reflect too, that if syncope were the cause of death, a similar catastrophe would sometimes occur with a healthy heart. Hirst, however, asserts that though in many women there is a tendency to syncope after labour, the consequences are rarely fatal; his experience is confirmed by the fact that there is practically no case on record of sudden death during or shortly after labour, in which a *post-mortem* examination failed to discover some pathological condition. Again, it has been frequently observed in these cases, that if hæmorrhage, even to a considerable extent, occurs after labour, not only is the patient none the worse, but on the contrary, greatly benefited. Further, clinical experience teaches that the exhibition of drugs such as nitrite of amyl, which dilate the peripheral vessels, is salutary, while ergot and others which contract them may precipitate a fatal issue. It would therefore appear that the theory suggested nearly thirty years ago by Spiegelberg, is correct; briefly, this is, that the establishment of the placentai circulation imposes on the heart the moving of more blood at a higher tension; hypertrophy of the left ventricle, makes this possible; with the expulsion of the child and secundines, the relations of pressure are suddenly altered; the placental circulation having ceased and the utero-placental vessels being closed, the pressure in the aorta sinks; at the same time the venous pressure increases, in spite of the shutting off of some channels and the loss of the normal amount of blood *post partum*, for there still is more blood than in the non-pregnant condition. These changes of pressure are quickly overcome and equalised by a sound heart; not so with one that is diseased. A moment's consideration now will show how it is that with aortic lesions, troublesome symptoms gradually increase during pregnancy, reach a climax in the second stage of labour, and abate directly it is completed, while with mitral lesions, the termination of labour does not necessarily give relief nor freedom from the possibility of symptoms, as yet undeveloped, suddenly becoming serious. As a matter of historical interest it is worthy of note, that only a few months after the appearance of Spiegelberg's paper, Peter delivered a clinical lecture in Paris, and expounded identical views which he had evolved apparently independently.

It remains to consider how the dangers associated with labour are to be combated. The fact that death practically never occurs during the first stage, but during the second or third, or even later, suggests that while there is usually no necessity for interference till the os is dilated, yet once that is accomplished, the sooner labour is terminated the better. During the first stage it will often be found that the sitting position is the most favourable; fluid nourishment must be given at intervals; more active treatment is rarely necessary save in cases of hydramnios, when the membranes should be punctured. The second stage, with the muscular effort it involves, must be reduced to a minimum; with chloroform and forceps this is readily effected; a degree of anæsthesia must be obtained sufficient to abolish all voluntary muscular effort; extraction must be slow. Should there have been unfavourable symptoms in the first stage, the administration of chloroform directly it is over will generally be noticed to give relief; it may be trusted not to contribute to a fatal issue, and the careful application of forceps with aseptic precautions should involve no risk. Some writers recommend the dorsal decubitus for the application of forceps in cardiac cases, and there is no doubt that it has advantages: the use of instruments without an anæsthetic involves a degree of shock to which these patients ought never to be subjected, especially as highly dangerous straining efforts may be excited at the same time. The ease with which labour may often be completed by these means is satisfactory indeed, especially when compared with the difficulties and anxieties that usually arise if the patient is left, even for half an hour, to try and finish by her own muscular exertions. In a case of mitral stenosis of recent origin, where there had been a severe attack of rheumatic fever so recently as three months before the confinement, I was in this way able to deliver without the development of any unfavourable symptoms. It need hardly be added that the easier the labour the less the risk in the puerperium. Hirst goes so far as to say that if this treatment be adopted there need be no anxiety; he has treated many cases and never had a death. To ensure a successful issue it is important to have the patient during the last few weeks of pregnancy under such continuous observation as can only be obtained in a hospital or nursing home. The study of these cases not only affords an irresistible argument in favour of the establishment of a maternity hospital in every large centre, but also shows the folly of entrusting pregnant women to the care of a midwife who is *ipso facto* incapable of making any other than an obstetric examination. Very occasionally, active treatment must be adopted during the first stage. In one of my cases, which was published in detail in the *Birmingham Medical Review* for October, 1900, cyanosis and other alarming symptoms developed when the os was only one-third dilated; I at once administered chloroform and delivered by version, as I considered that not having the assistance even of a nurse, I could most readily terminate labour in that way. Should it be impossible to dilate the os with the hand, a Champetrier de Ribes' bag must be introduced for a time, while if difficulty arises at an early stage, dilators may be required; in exceptional cases it might be necessary to incise the cervix. Of course, chloroform must be administered before any of these proceedings are adopted. During the third stage, it is best for the placenta to separate naturally, and ample time should be allowed for this. Expulsion by Crede's method should be avoided. Clarence Webster strongly advocates slow manual separation of the placenta, on the ground that this procedure avoids a too sudden change in the vascular pressure. There is much to be said in favour of this method, but the risk of septic complications to which these patients are especially susceptible is sufficient to justify us in hesitating to adopt it as routine treatment If labour has been satisfactorily terminated and unfavourable symptoms develop either at once, which is the more common, or at a later stage, what is to be done? We know our object is to relieve the embarrassed right side of the heart; therefore, the exhibition of nitrite of amyl, as suggested by Fraser Wright is highly beneficial; it is best given by the anæsthetist in capsules containing 4 or 5 minims, which are broken and held to the patient's nose; it dilates the peripheral vessels at once, and the good effects are seen in twenty or thirty seconds. Clarence Webster strongly recommends it; on the other hand

Arnold Lea reports that it failed in one of his seven cases. In addition lowering the head and shoulders is always helpful and always practicable. Blood-letting in various forms has been frequently recommended; if the emergency occurs immediately after the birth of the child this may be effected by letting the uterus relax slightly, a somewhat risky expedient; venesection may be performed, preferably in the jugular vein in great emergency; it is important to divide this vein as low down in the neck as possible, so as to get below the valve. Other useful methods are cupping over the lungs, and the administration of stimulants such as alcohol, ammonia, and strychnine; the latter may be given hypodermically. Ergot is contra-indicated, as it contracts the peripheral vessels and thereby raises the blood pressure; probably many cases of syncope after labour are due to this drug, which even in moderate doses will produce collapse in an exhausted patient.

With regard to the after treatment rest in bed is essential for several weeks; all straining efforts at stool or micturition must be avoided. The patient should not nurse her child, and cardiac tonics must be administered according to the exigencies of the particular case.

REPORTS OF CASES.

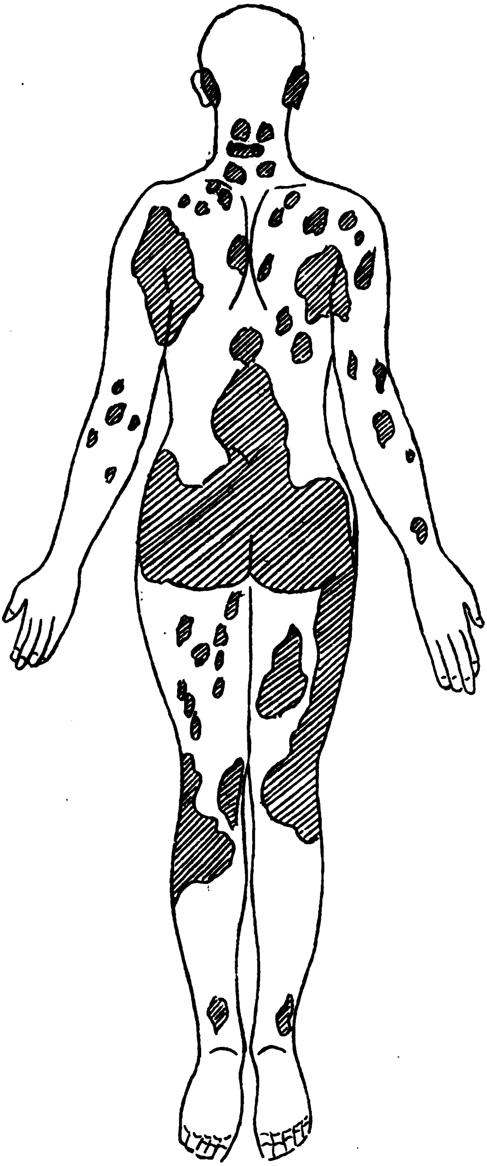
A SEVERE CASE OF ERYTHEMA BULLOSUM.

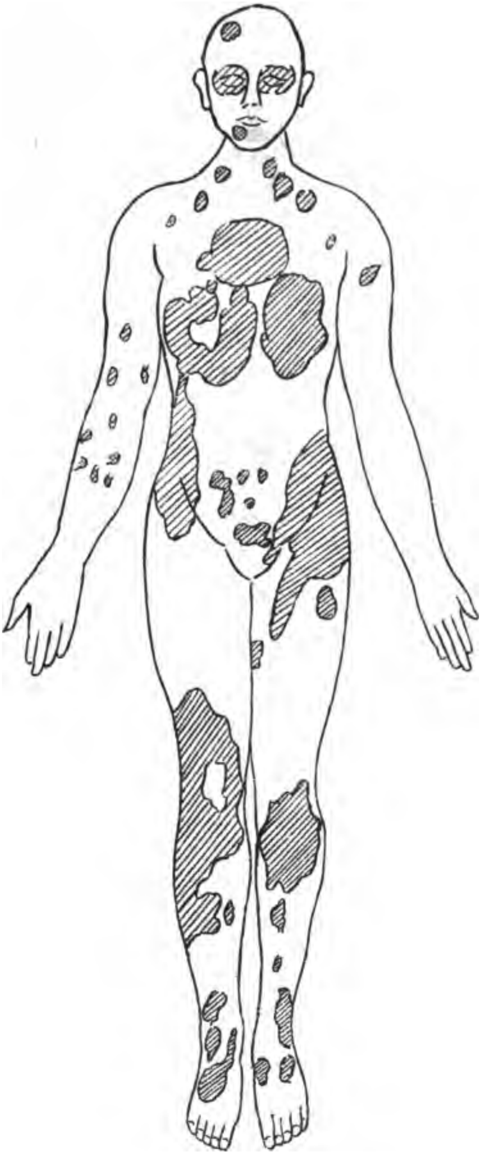
BY T. SYDNEY SHORT, M.D., M.R.C.P.,
PHYSICIAN TO THE INFIRMARY AND ASSISTANT PHYSICIAN TO THE GENERAL HOSPITAL, BIRMINGHAM.

Mrs. Jessie B., æt. 38, was first seen at the General Hospital, on Friday, September 7th, 1900. She then had an acute erythematous rash scattered over the whole of the trunk, legs, and arms, behind the ears, around the eyes, and on the face. There was much blebbing on the inflamed bases. In some of the vesicles the fluid was clear, in others it was puriform. Those situated between the breasts, on the back, and a few of those situated on the other parts of the trunk had already burst, so that the clothes were sticking to the inflamed and raw surfaces of the skin. Some of the lesions looked very like erythema iris, some consisted of patches of erythema with a white margin and bluish centre, while others looked like small grapes with bluish fluid contents. A few of the blebs with puriform contents looked more like pemphigus vesicles, inasmuch as they arose from the cuticle, unaccompanied by any area of inflammation. The amount of erythema around the blebs varied considerably, for in some places there was only a thin red margin, while in others the red blush was about an inch wide. There was no sign of scratching, and she said she felt no itching, burning, or even any uncomfortable feeling. She looked ill, had a dirty tongue, and a temperature of 102°.

The *history* of the case was as follows: she said she was quite well five days before, on the Sunday. The rash first came out over the legs on the Monday. A number of small pimples first appeared, which spread rapidly over the other parts of the body. No blisters arose till the Wednesday night, when they came out in a few hours all over the body. During the next day (Thursday) many burst, and the covering skin began to peel off. It appeared that on the Sunday she had had fried fish and pork for dinner—both unusual dishes for her, but so far as she knew she felt no ill effects from them and had not been sick. Her husband and children had also partaken of the same and had had no rash

She refused admission to the hospital and went home. On the following Tuesday she was admitted under my care in the infirmary. She was then in a terrible condition. Large tracts of skin were completely denuded of epithelium and exhibited a raw bleeding surface. The whole of the buttocks, the hips, and portions of the thighs were completely flayed; while large areas over the back and front of the chest, and on the legs,





looked as if they had been severely blistered and the skin left hanging to them in places.* None of the lesions appeared to be deeper than the epidermis. Her tongue was furred and dry, and her temperature was raised between 102° and 103°. She had great difficulty in lying in any position, and preferred to be on her side supporting herself on one hip. She made very little complaint, and said that so long as she did not stick to the bedclothes none of the places hurt her. She was wrapped from head to foot in large squares of gauze covered thickly with vaseline.

During the night she wandered a little. The next morning her tongue was moister, and she expressed herself as feeling quite comfortable. Several of the places had dried and were covered with thickened scabs of a red colour; none of them were yellow. Some of the places, and especially those on the arms, showed three distinct rings—an outer red, middle white, and inner reddish-blue. On the 13th several fresh bullæ appeared with only a very thin red line around them, scarcely sufficient to be called an erythema. A few herpetic vesicles also appeared on the palate and rapidly turned to small ulcers.

During the next week many of the blebs which were unbroken became pustular, and the pus had to be let out. At the end of the week the temperature fell to the normal. By the 30th the lesions had recovered sufficiently to take a dusting powder of zinc oxide, boracic acid, and starch. They healed so rapidly that in another week she was up and about, and went home on October 13th with the skin discoloured over all the sites of the eruption, but with no real scars anywhere.

She showed throughout no signs of involvement of the mucous membranes beyond the palatal vesicles mentioned above.

Remarks.—The main points of interest in this case are:—(1) The extreme severity of the lesions, (2) the rapid onset and speedy recovery, and (3) the complete absence of itching, burning, or other irritation of the skin.

---

* See illustration of case drawn by my House Physician, Dr. Higginson. The shaded areas denote the extent of the lesions with exfoliation of the cuticle.

Diagnosis.—If it had not been for the complete absence of sensory symptoms, this condition might easily have been one of *Dermatitis herpetiformis* (*Hydroa*) arising acutely. In this disease, however, the most prominent symptom is the irritation caused by the lesion and the distressing effect thus produced on the nervous system; moreover, the condition is usually more chronic or recurrent. This was her first attack and up to the present it has not recurred.

In ordinary *Erythema multiforme* the lesion is usually much less severe; there is more transitory erythema with infiltration of the skin and much less tendency to blebbing.

In *Acute general eczema* with anything approaching such a severe lesion, the patient would have been more distressed, and there would have been more continuous oozing from the raw surfaces and less wholesale blebbing, with rapid drying up of the cuticle.

Some of the bullæ certainly looked very like *Pemphigus*, on account of the small amount of basal inflammation. But the greater part were much too inflamed, and the erythema so markedly present is not seen in pemphigus. Again, in the latter disease, the constitutional symptoms would have been much more severe, and it is unlikely that a patient suffering from a pemphigus denuding half the body would have recovered in so short a time, if at all.

Treatment.—After the acute symptoms had subsided she was put upon ♏v. of Liq. Arsenicalis three times a day after food. The local treatment consisted solely of vaseline (of which she required about 2lb. a day) and the dusting powder already mentioned.

REPORTS OF SOCIETIES.

British Medical Association.

Birmingham and Midland Counties Branch.

The fourth ordinary meeting of the Session was held in the Birmingham Medical Institute, on Thursday, January 10th, 1901, the President, Dr. **Milner Moore**, being in the chair.

Ninety-five Members and seven Visitors were present.

The Minutes of the last ordinary meeting were read, confirmed, and signed.

Apologies for non-attendance were received from Mr. George Chapman, Mr. H. M. Morgan, Mr. A. Loxton, and Dr. Saundby.

The following member of the Association was elected a member of the Branch, viz., George Keith Gifford, M.B., Brierley Hill.

Posterior Basal Meningitis.— Dr. Stacey Wilson showed a child who had perfectly recovered from well-marked symptoms of posterior basal meningitis.

Abdominal Aneurism.—Dr. Stacey Wilson also showed a man with a cured abdominal aneurism.

Gallstones.—Mr. Alfred Freer showed two specimes of large gallstones, passed per anum. The first was two inches long, weighed 110 grains, and was voided by a woman, æt. 84, in September, 1899, two days after an attack of frequent vomiting, with intense pain and icterus, coming on in the course of pneumonia; several smaller facetted stones were also passed: the patient is now in good health. The second specimen came from a man, æt. 76, in whom Mr. Freer had diagnosed gallstones thirty-five years ago: he presented himself in 1895, complaining of pain in the rectum, which he attributed to some false teeth supposed to have been swallowed; but the foreign body proved to be a gallstone, one inch in length, weighing 120 grains, and which Mr. Freer removed.

DISCUSSION ON THE COVENTRY PROVIDENT DISPENSARY.

Before calling on Dr. Edward Phillips to move the Resolution of which he had given notice, the President said that as he had been concerned in the previous history of the question about to be considered, he was willing not to act as chairman on this occasion if the meeting so desired, but that in any case, he did not intend to take part in the discussion.

Mr. Blakeney thereupon moved, and Dr. Nelson seconded, "That the President do not act as chairman of this meeting." The motion was negatived by an almost unanimous vote.

Dr. Edward Phillips then moved—"That inasmuch as the Coventry Provident Dispensary has been condemned by the Ethical Committee of the Birmingham and Midland Counties Branch of the British Medical Association, by the Council of the Association, and by the members assembled at annual meetings of the Association, it is proposed that, in future, no professional recognition shall be given to medical men holding appointments in this Institution by any member of the Birmingham and Midland Counties Branch of the British Medical Association."

In proposing the resolution, Dr. Phillips stated that he had no feelings of regret in bringing forward a proposition of this kind, especially as the local profession had done everything in its power to remedy the abuse, not only with the medical staff but with the Committee of the Dispensary; and as they had failed in bringing about reform, there remained no alternative but to test the opinion of the Branch. In describing the early start of the agitation, Dr. Phillips pointed out that in 1892 the whole profession in Coventry met upon this question, and the dispensary doctors pledged themselves to support the movement, which support was never adhered to. At that time there were between 25,000 and 26,000 members in the dispensary out of a population in Coventry of 52,000, there was no kind of wage-limit, and the dispensary having been established for the working classes was used by anyone wishing to become a member, and as a result it had become a perfect scandal in Coventry. The Institution has since been condemned by the Ethical Branch, by the British Medical Association and its Council, *The Journal of Association*, and *The Lancet*. The medical staff had actually admitted the abuses in a Memorial to the Committee in 1896, the reply to which was "that if they were not satisfied with their positions, other men could be found to take their places." In spite of this insult and these condemnations they still continued to set their profession at defiance and retain their positions,—in fact the dispensary was managed entirely by a lay committee, and the medical staff were exploited for pecuniary gain. If this resolution were carried and these dispensary doctors were cut off from professional recognition they would have their hands strengthened in such a way, that they could go to their Committee and tell them they must either bring their institution in a line with the feeling of their profession, or they must resign their appointment.

Dr. Kirby, in seconding the resolution, said that the question was not as to the merits of the Coventry Dispensary; that had already been decided by the Ethical Committee. He hoped all classes of medical men would support the resolution. The general practitioners would, as it was a general practitioner's question; the consultants, he hoped, would remember the support the general practitioners gave them in their struggle over the Consultative Institution, and reciprocate. The consultants could not lose fees if the resolution were carried, as there was nowhere else for folks to send for consultants and specialists except Birmingham. He hoped that the Dispensary men would accept the resolution, and use it as a lever to exact reforms. But in any case, the British Medical Association could no longer permit its wishes to be disregarded by a few men, the staff of the Dispensary, and he was sure the meeting would support its own Ethical Committee.

At the request of Dr. Malet the following Report of the

Ethical Committee of the Branch, as published in the *British Medical Journal*, July 17, 1897, was read by the Secretary:—

"1. That the Dispensary Medical Staff hold appointments in an Institution which has been condemned by the *British Medical Journal.*

This seems proved from the circumstance that, when the Journal had its attention called to the fact that in its issue of July, 1896, it had published an advertisement for a surgeon to fill a vacant post at the Coventry Dispensary, the issue of August 15th, 1896, stated that the said advertisement was inserted in error and out of accordance with its usages; also, in editorial footnotes to letters in the issues of November 3rd and November 24th, 1894, the management of the institution in respect to admission without wage limit is expressly condemned.

'At any rate, as we said in the *British Medical Journal* of October 13th, the Dispensary (Coventry) is not an undertaking the advertisement of which would knowingly be admitted in our Journal.'—*British Medical Journal,* November 3rd, 1894.

'As far as we can see at present the Dispensary authorities have put themselves wholly in the wrong.'—*British Medical Journal,* November 24th, 1894.

2. The low scale of remuneration they accept seriously interferes with all medical fees in the town; this seems proved. Population of Coventry is 52,000, 26,000 are members of the Dispensary, and the staff receive a varying sum in remuneration equal to 1s. 1d. to 1s. 4d. per head per annum.—(See *Coventry Herald,* December 12th, 1894.

3. There is no proper attempt at enforcing what is known as a wage limit; this seems proved. The Dispensary passed, at its annual meeting, in 1893, a resolution that the pecuniary circumstances of an applicant should be no bar to membership The Medical Staff of the Dispensary opposed this, but it was carried, no member of the staff resigning; this rule was repealed at the annual meeting of 1895, but in 1896, on December 4th, the *Coventry Herald* in large type editorial says: 'There is no wage limit in the Coventry Provident Dispensary, and the Public

Medical Service has been established expressly to uphold the principle.' Neither statement has been controverted, and instances can be given if required of people joining who could well afford to pay doctors' bills.

4. The Dispensary Staff refuse to meet in consultation with other doctors in the town on Dispensary cases. There still exists on the books of the Dispensary a rule that the Medical Officers should not hold consultation with anyone outside their staff. The Dispensary Staff on their side offer to make the rule a dead letter according to their statement.

5. That the Dispensary Staff are in the hands of a Lay Committee.

Rule 4 states that the government is in the hands of all the members from the President to the ordinary members; no surgeon is included.

Rule 8 states that the Committee shall consist of twenty-four members, and Rule 17 that the Medical Staff shall send two members to the general meeting.

6. That the Dispensary touts for members. Active canvassing used to exist, but since the Dispensary has absorbed half the population of Coventry, it is no longer required, but anyone can join, even when ill (according to the rules), if he or she can procure two healthy persons above the age of 12 to enter at the same time and pay one year's subscription in advance.

7. That they exploit the medical profession for pecuniary gain. This seems proved from the fact that surplus funds are not all divided up amongst the profesion. In 1893 £500 was invested on mortgage and property in addition purchased, and the Medical Staff do not receive quite two-thirds of the members' subscriptions according to rule.

It would appear from the above that there are grave flaws in the management of this institution from a professional point of view.

Signed on behalf of the committee,

M. ARDEN MESSITER, *Chairman.*"

Mr. Barling moved, and Dr. Stead seconded the following amendment to the resolution, viz.:—"That the Ethical Committee of the Branch be requested to meet the Committee of the Provident Dispensary at Coventry to point out to them the matters complained of in its management, and to ask them to institute reforms; and to report the result of the meeting to this Branch."

(As the time allowed for business had elapsed, the President asked if it was the will of the meeting to prolong the time. It was decided *nem. con.* to continue the discussion.)

Mr. Messiter opposed the amendment. He defended the action of the Ethical Committee of which he was the chairman, stating that they asked both sides to appear; that the representatives of the Coventry Public Service did personally attend and stated their case; whilst the staff of the Coventry Provident Dispensary sent in a statement drawn up by their solicitor. After six meetings of the Committee a report was drawn up; and not one finding of that report has at present been traversed.

Mr. Morrison and Dr. Thursfield spoke against the amendment.

Mr. Bennett May supported the resolution.

Dr. McVeagh opposed the resolution. He denied the assertions made by Dr. E. Phillips, and said he had not had time to prepare a full defence.

Mr. Priestley Smith pointed out that the Dispensary staff had ample opportunity to state their case when it was considered by the Ethical Committee.

Mr. Oakes spoke in favour of the resolution. He strongly commended the proceedings of Mr. Messiter as Chairman of the Ethical Committee, and emphatically endorsed that gentleman's remarks.

Dr. Fletcher defended the Coventry Dispensary. He said there was a rule that only working men, their wives, and families were eligible for membership; and that the staff inspected the book of candidates for membership before their election. All members' payments go to the staff when the working expenses have been deducted. The payments for children of the same family, under twelve years of age, were a penny a week for the first child, and a halfpenny each for the others. He further stated that there is no canvassing, and that the membership was about 20,000 out of a population of 73,000.

Dr. Davidson also spoke on behalf of the Dispensary staff.

The amendment was then put. It was rejected almost unanimously.

Dr. Donovan then moved, and Dr. Simon seconded,

"That this meeting lays the matter of the Coventry Dispensary before the General Medical Council, and calls on the Council to deal with the case."

Mr. Jordan Lloyd opposed the original resolution. He said it was obvious that the resolution was aimed at the Birmingham consultants, and speaking as a member of that body who had many times met every member of the staff of the Coventry Dispensary in consultation, he wished to say that a more honourable, dignified, respected and well-informed body of practitioners were not to be found in the profession of medicine. If he had to decline to meet this Dispensary staff—solely for the reason that they were attached to such an Institution—he would like to know how many among the members present at that meeting he would be able to meet? Scarcely one of them, he thought. The whole facts of the question at issue between the two sections of Coventry practitioners could not be placed before that meeting. He was as anxious as anyone to better the position of medical practitioners, and uphold the honour and dignity of the profession, but he did not think this resolution was calculated to do either, and he should therefore vote against it.

Dr. Donovan's amendment having been put, it was negatived with few dissentients.

Dr. Leslie Phillips then moved, and Mr. Bennett May seconded, "That the discussion be adjourned." This was put to the meeting, and carried.

A special meeting of the Branch was held in the Birmingham Medical Institute, on January 24th, 1901, the President, Dr. MILNER MOORE, being in the chair.

One hundred and one Members and eight Visitors were present.

Apologies for non-attendance were received from Dr. Thursfield, Mr. Priestley Smith, and Mr. Barling.

The President moved, Mr. Messiter seconded, and it was, in silence, unanimously resolved—

> "That the members of the Birmingham and Midland Counties Branch of the British Medical Association desire to express their deep sympathy with His Majesty the King and the rest of the Royal Family in the irreparable loss sustained by them and the nation by the death of Her Majesty Queen Victoria."

The President then called upon Dr. Leslie Phillips who had moved the adjournment of the discussion at the last meeting. Dr. Leslie Phillips asked leave to defer his remarks until later in the Meeting.

Dr. Pickup read the following statement on behalf of the staff of the Coventry Provident Dispensary:—

Mr. President and Gentlemen,

Before you proceed to vote on Dr. Edward Phillips' resolution, the staff of the Coventry Dispensary desire to lay before you as shortly as possible an answer to his charges against the Institution. We think you will admit that it is more satisfactory that this adjourned meeting has enabled us to reply to Dr. Phillips' detailed charges.

We can conceive that those amongst you who know nothing of us except what you have heard from Dr. Phillips in connection with this Institution have already condemned us, and come to the conclusion that we must belong to a very low stratum of our profession, to a class of men, in fact, who have no regard for the dignity and interest of the profession, and whose sole consideration is pecuniary profit. There are, however, some amongst you who know us personally and who know that this is not the case.

Dr. Phillips omitted to tell you, when he referred to the memorial which we presented to our Committee and the abuses to which it referred, that the presentation of this memorial took place four or five years ago, and that since then many of these abuses have been abolished and reforms instituted.

First with regard to the number of members. He told you that there were 26,000 members, and that half the population of Coventry was in the Dispensary It is true that a member of the Institution once said some years ago at an annual meeting that there were upwards of 26,000 members. This statement appeared in the local press and constitutes Dr. Phillips' authority, though he knows we have frequently denied it. But this member's statement was merely guesswork, as the books were not kept at that time in such a way as to be able to tell the number of members.

This defect has been remedied and we are now able to estimate the number with this result: there has never been more members than at the present time: there are now between 19,000 and 20,000; the population of Coventry according to information given to us by the Town Clerk last week is between 73,000 and 74,000; 19,000 to 20,000 members out of a population of 73,000 to 74,000 is very different from half the population.

Next with regard to payments; the rule is that each person above 12 years of age pays 1d. a week, for children under 12 the payment is 1d. a week for the first child, and ½d. a week for each other child in the same family; there is here no suggestion of 2d. a dozen, such as was spoken of by Dr. Phillips.

Dr. Phillips accuses us of being exploited and of a profit being made out of us; the truth is that all the money received from members' payments is divided amongst the Doctors after the working expenses have been deducted except a small balance in the bank, which is kept to meet an emergency such as an epidemic. It is true that the sum of £500 was invested some years ago as stated by Dr. Phillips, but this was not received from members' payments; it is part of a legacy which had been left to the Institution. Numerous legacies have been left at various times and the interest of all these goes to help to pay the working expenses. Nobody receives any money whatever from the Institution except the Medical Officers, the Dispensing Staff and the Collectors. We cannot see therefore, how we can be justly accused of being exploited.

Dr. Phillips tells you that there is a rule which forbids the members of the staff from meeting the other medical men of the town in consultation. The only rule on the subject is the following: "The Medical Officers in cases of danger or difficulty shall if they think it necessary or if the patient so desires, call in for consultation any or all of the Medical Staff or any Specialist, the Specialists fee only to be paid by the member."

There is no reference in this rule to the other medical men in the town and it leaves us at liberty to please ourselves. We have offered to meet the other medical men in consultation on our Dispensary cases and as a matter of practice we do meet those medical men whom we would meet over our private cases.

We have no wage limit, but the admission of members is managed in the following way: there are two Committees both of which meet monthly; the medical Committee consisting of all the members of the staff and the lay Committee on which are two members of the staff. The medical Committee examines the Drug Bill, appoints the Dispensing Staff and has the candidates admission book submitted to it every month. The name, address and occupation of every applicant for admission are before us and if an objection to any one be raised, this objection is sent to the General Committee who appoint two of their number to enquire into the cause and report at their next meeting.

If the applicant is found to be in a position to pay ordinary medical fees he is refused admission. We consider that this system works as well as, and is, practically a wage limit, especially in a town like ours, where so many of the working classes are bicycle hands, who for some weeks will earn 2, 3, or £4 a week and for many weeks and even months be entirely out of work.

A great deal has been said about well to do' people being members of the Institution. Almost every man of this class is a member of one or other of the clubs such as Odd Fellows, Druids, etc., and as a matter of fact in our practices we find these men scarcely ever take advantage of the Institution. They come to our houses, consult us and pay us as private patients, but they retain their membership of their clubs, in order as they say to support the Institutions which assisted them when they were in need of help.

Canvassing has never been allowed in the Dispensary. There is a rule, however, which says that if a sick person can get two healthy persons to join with him, and they pay one year's subscription in advance, he shall be admitted in the benefits of the Institution at once. This has been construed into an incentive to canvass. Consequently we asked our Committee to abrogate this rule, and this was immediately done. As a matter of fact, there had not been ten admissions under this rule in the previous twelve years.

The resolution which you have to vote upon this afternoon asks you to boycott us six medical men. We beg you to consider whether this is the best way to attain the object which you have in view, viz., to reform such Institutions as ours—you have only to read the report of the Commissioner of the *Lancet*, published as "The Battle of the Clubs," on such Dispensaries as those of Leicester, Nottingham, Northampton, Loughborough and other places, and even Birmingham where contract practice is carried on under the management of laymen as middlemen, to see that our Dispensary is better managed than most of these.

Would it not be better, instead of singling out one Institution such as ours, if the various local branches of the British Medical Association were to communicate with each other and ascertain what abuses exist in their districts and then send a conjoint appeal to General Medical Council asking the Council to define the conditions under which men may hold these appointments without being guilty of infamous conduct in a professional sense.

We are as anxious as any of you can be that the Coventry Provident Dispensary shall be worked on lines which are approved by our profession generally; with this object we have obtained many reforms and intend to obtain more; but we entirely fail to see that resigning our appointments under present circumstances will in any way improve matters, whereas it will deprive us of a considerable proportion of our incomes which we cannot afford to lose. We know that our places would, under existing circumstances, be readily filled by men who would have no power such as we have and are able to exercise to obtain reform.

Dr. Richardson Rice deprecated the introduction of personal matters, as this question involved a principle of great importance to the profession at large. He explained that many years had elapsed since any member attached to the Medical Service in Coventry had applied for the Dispensary appointment. Formerly the profession in the town was not organised, but they had since pledged themselves not to apply. The young practitioners, to a man, had resigned their connection with Medical Aid Associations, and had little difficulty in enrolling the large majority of the patients in the Public Medical Service. Dr. Rice then analysed the so-called reforms obtained since the presentation of the memorial by the Dispensary staff to their Committee in 1896. In some respects they were retrograde, but none were of substantial value, the Committee still refusing to recognise the principle of a wage basis. What had been done was chiefly for the purpose of throwing dust in the eyes of the profession. Dr. Rice challenged the Dispensary staff to say that they had power to resist with success all improper applications for membership, or any retrospective power of excluding those who obtained admission when the Institution was absolutely open to all comers. The Public Medical Service of Coventry had been formed for the purpose of establishing the wage limit basis, and though entirely under professional control, had been a great practical success. The Dispensary doctors though invited to join it had declined. He made a strong appeal to the consultants to fall into line with the rest of the profession on this question. The passing of this resolution would act as a lever whereby the hands of the Dispensary doctors in approaching their Committee would be strengthened in demanding reasonable reform. Otherwise the Institution would be paralysed. The consultants of Birmingham were indispensable to Coventry practitioners occasionally, and might as well act legally as illegally. If they chose the latter course, the profession would take note of those who refused to be bound by the resolution.

Dr. J. Leslie Callaghan said that the opposition by consultants was only to be expected, as "self-preservation is the first law of Nature." The Birmingham consultants derive a considerable income from the Coventry Dispensary patients. One gentleman he could mention, as an example, was receiving advice and medicine at the Dispensary for under a penny per week, and could afford to pay a Birmingham surgeon £25 for an operation; and this was by no means an isolated case. If the Dispensary doctors were poor, and outcasts from society, there might be some excuse for their holding such a degrading appointment; but the fact of their being gentlemen with good private practices, graduates of Cambridge and other Universities, magistrates, men who can afford broughams, &c., magnifies the offence instead of minimising it, as Mr. Jordan Lloyd would have it believed. He was prepared to admit that there have been a few trifling alterations during the last few years, but the graver abuses still exist, and will continue to exist until the staff receives the treatment it deserves from the profession at large. Dr. Callaghan some years ago had acted as deputy at the Dispensary for a gentleman to whose practice he was succeeding, but after doing the work for a few weeks he discovered that the doctors were the humble servants of a most autocratic lay Committee; that a large proportion of the patients were not the class of people for whom the Institution was originally intended; and that the numbers of patients (be it 20,000 or 26,000) were too many for six doctors to attend to except in a perfunctory manner, especially when they were also engaged in private practice; and therefore he refused to allow himself to be nominated as a candidate for the vacancy caused by the resignation of the gentleman to whose practice he had succeeded. He also emphatically denied that he had ever offered £100 for the appointment. Dr. Callaghan was prepared to admit that the staff wished for reform, but they were afraid of the Committee. If this resolution is passed, it will strengthen the hands of the staff; and it would be the next best thing to condemnation by the General Medical Council, as they would be able to tell their Committee that they are refused professional recognition by the Birmingham consultants, and if anything would make this Committee bend its head, this would. On the other hand, if the Committee remained obdurate, and the staff resigned, it would smash up the Dispensary. The Committee would not be able to get men of standing to take the appointments under the circumstances, and the patients would not submit to have an inferior type of medical man. Consequently the staff would take nine-tenths of their patients with them, some as patients in a reformed Institution like the Public Medical Service, and others would become private patients, as he had practical experience of after his six weeks' locum-teriency at the Dispensary. He was quite certain that in passing this resolution the Branch would be doing a good turn for the Dispensary doctors, as it would be putting into their hands a powerful lever to move the Committee. He concluded by saying he had no personal animosity against the Dispensary doctors—all he wished was for their own good, that they might free themselves from their present state of bondage; and he hoped they would look on this resolution as an endeavour to help them out of their present unseemly position.

Dr. Leslie Phillips urged that the findings of the Ethical Committee should be binding on the conduct of the members of the Branch: that the motion did not go beyond the occasion: that it was a scandal that medical skill should be sold to the well-to-do for one shilling and fourpence a year: that while the meeting regretted the necessity for using the boycott, the responsibility for this lay with the staff of the Coventry Dispensary, who by setting the opinion of the Medical Press, of the Association, and of the Ethical Committee of the Branch at defiance, compelled the Branch to enforce its views by such a painful procedure. He regretted that some consultants were not found in line with the vast majority of their brethren; expressed the view that practitioners were getting rather tired of the degradation to which they had been so long subjected, and that they had determined to bring about a more just condition of affairs

Mr. H. W. Pooler proposed, and Mr. Blakeney seconded, "That this meeting of the Birmingham and Midland Branch of the British Medical Association emphatically approves the finding of its Ethical Committee *re* the Coventry Provident Dispensary; and hereby remits the matter to the further consideration of that Committee, with a view to finding a remedy for the present state of affairs in Coventry."

Mr. Langley Browne spoke against the amendment, and said he hoped the matter would not be referred back to the Ethical Committee, as the latter had already spent very much time over the question, and there was nothing to alter in the report the Committee had made to the Branch. The reply of the Coventry Dispensary staff was no reply to the report of the Ethical Committee, but carefully avoided any reference to it, and the abuses existing now were much the same as when the report was made. It had been stated that an endeavour was being made to break up the Dispensary and to take away the livings of the medical staff, but that is not the case. Even if the members of the Dispensary who could well afford ordinary medical fees amounted to 10 per cent., and they were discharged, there would still be over 18,000 members left. The Dispensary staff said in their reply that they had the power of rejecting any proposed member who could afford ordinary fees; but no proof was given, or figures brought forward to show that the power had been exercised. Some speakers maintained that if the proposed resolution were passed, it would not be enforced, and that it was therefore waste of time to pass it; but surely, the opinion of most of the medical practitioners in the district would carry weight, and if the resolution were carried anything like unanimously, it would certainly not be disregarded. Let the Coventry Dispensary staff insist upon the necessary reforms, and resign if they did not get them, and they would have the whole body and the doctors in the district willing to back them up and support them.

Mr. Pooler's amendment was then put, and negatived almost unanimously.

Mr. Messiter proposed that the resolution be amended to read as follows:—" That inasmuch as the Coventry Provident Dispensary has been condemned by the Ethical Committee of the Birmingham and Midland Counties Branch of the British Medical Association, and by the members assembled at annual meetings of the association, it is the opinion of this meeting that in future no professional recognition should be given to medical men holding appointments in this Institution by any members of the Birmingham and Midland Counties Branch of the British Medical Association."

Mr. Morrison seconded the amendment. He pointed out that the Branch had no executive power to compel any of its members to carry out the terms of the original resolution. Such power was the prerogative of the General Medical Council. But the complaints against the Coventry Provident Dispensary were brought to the bar of professional opinion, and it certainly came within the province of the Branch to express its opinion upon a matter which had now been exhaustively considered.

Dr. Simon protested against the remarks of some speakers about "boycotting."

The amendment was carried by a large majority.

Dr. Edward Phillips replied on the whole discussion, and with the consent of Dr. Kirby, accepted the amendment as the substantive resolution.

The resolution, as amended, was then put to the meeting, and carried with few dissentients.

MIDLAND MEDICAL SOCIETY.

The fourth ordinary meeting of the Society was held on Wednesday Evening, January 16th, 1901, at the Medical Institute, the President, Mr. JORDAN LLOYD, in the chair.

The following were elected members of the Society:—Violet E. R. Coghill, M.B., Ch.B., E. C. Farquharson, M.D., Wm. Wright, M.B, Ch.B., M.R.C.S., L.R.C.P., A. E. Freer, L.S.A., and J. H. Bennett, L.R.C.P., L.R.C.S.

Combined Paralysis.—Dr. Douglas Stanley showed a man, aged 39, with partial paralysis of the right third nerve and right hemiplegia. The patient contracted syphilis fifteen years previously. About the beginning of November, 1900, he noticed some weakness of the right arm and leg, and the face was a little drawn over to the left. Some weeks later he noticed that objects appeared double, and that he could not get the right eye open. The pupil on the right side was smaller than the opposite, and the superior rectus was paralysed. The condition was considered as due to a double lesion, one involving the left internal capsule—the other in the substance of the right crus.

Gangrenous Intestine. — Mr. Lucas showed six feet of gangrenous intestine, due to strangulation through a hole in the mesentery. The specimen was from a man, aged 29, who walked into the surgery of the General Hospital on October 4th, 1900. He had been feeling unwell for five days previously, and on the preceding day had felt something suddenly "give way" in his abdomen. He had all the signs of acute strangulation. The abdomen was at once opened and about a pint of blood stained fluid escaped. A large number of coils of gangrenous intestine were then seen and found to be due to strangulation through a hole in the mesentery.

The gangrenous intestine (six feet) was excised and the ends united by Murphy's button, and the abdomen flushed with saline fluid. He did well for the first two days, but on the next day (October 7th) became collapsed and died.

Post-mortem, peritonitis was found starting from the point of union of the intestine and due, evidently, to leakage. The points of interest were that a man with this enormous amount of gangrenous intestine could yet walk into the hospital, and that it could be excised without difficulty, and that he would in all probability have recovered had there been no leakage from the bowel.

Three Cases of Nephrectomy.—Mr. George Heaton read notes of three recent cases of successful nephrectomy.

Case I.—*Right Pyonephrosis following Vaginal Hysterectomy.*—This was a woman aged 34, who three years beforehand had had her uterus removed by vaginal hysterectomy. Symptoms of trouble in the right kidney commenced soon after the operation, and had increased in severity since. On March 9th, 1900, an attempt was made to remove the kidney through the lumbar route. It was found to be impracticable owing to dense adhesions. In December, 1900, abdominal nephrectomy was performed. The patient made a slow but good recovery.

Case II.—*Right Hydronephrosis due to Stricture of the Ureter.*—Nephrectomy by the lumbar method. A stricture was found one inch from the pelvis of the kidney, through which a fine probe could be passed. A second stricture existed five inches lower down the ureter. Rapid and complete convalescence ensued.

Case III.—*Nephrectomy for Repeated Renal Hæmaturia and Pyuria.*—This case was a boy, aged 17, who had had repeated severe attacks of hæmaturia. In March, 1897, the right kidney was explored for stone, but none was found. In November, 1899, the kidney was again explored, and a small caseating patch found in its lower border. This was excised. The hæmaturia and discharge of pus still continued. Nephrectomy by the lumbar method was performed on December 7th, 1900. The kidney was firmly adherent to all the surrounding structures, and was removed piecemeal. The patient made a good recovery.

Mr. Heaton commented on the urea excretion in all these cases. In each case the urea excretion for the first few days after the nephrectomy was very much higher (in two cases double) than it had been before the operation.

KIDDERMINSTER MEDICAL SOCIETY.

A meeting of this Society was held on Friday, January 18th, the President, Mr. J. LIONEL STRETTON, in the chair.

The President referred to the death of the late Queen, and proposed a resolution of condolence. The President read notes of three cases of Resection of the Intestine.

1. W. S., male, aged 64, had been ruptured many years, always down, no truss worn, six months previously had had an attack of obstruction which was relieved. Present attack commenced seven days before admission to hospital, all treatment unavailing. Refused to submit to operation at earlier period. He was a spare muscular man, anxious expression, hiccough and vomiting, (fæcal) large hard mass in right side of scrotum, very tense and discoloured. Had mitral disease, otherwise healthy. Under ether. Sac opened up, 2 strictures found, one at neck, other about centre, the latter so sharp and tight that it had reduced the calibre of the gut to the size of a pipe stem, and had so thinned the walls that fæcal matter was already escaping. The strictured portion of the gut was removed and ends approximated with "Murphy's button"—sac and testicle

removed. Discharged within a month, well. Button not found, but passed a hard motion soon after leaving hospital which was not examined. Hernia has not been down since.

2. M. P., female, æt. 65, umbilical hernia many years, no support worn, strangulated 24 hours before admission, patient and friends had made violent effort at taxis.

On admission, a very fat woman, with a bad capillary circulation, suffering acute pain, with fæcal vomiting, large hard and tense swelling in region of umbilicus, of a dull red colour, several ecchymoses, evidently result of rough handling. Under ether. Incision liberated several coils of stinking gangrenous intestine. Thirty-eight inches of small intestine excised, ends approximated with "Murphy's button." Operation lasted about 1½ hours. Suffered considerably from shock, and in spite of saline transfusion, hypodermic injections of strychnine, died six hours later Nothing discovered *post-mortem*. The intestine quite secure, and peritoneum healthy.

3. M. M., female, aged 44, suffered from umbilical hernia many years, refused to wear a truss. Always able to return it until last six months, since which time a small portion has been irreducible. Strangulated six days, all efforts at reduction failed; treated with opium internally and belladonna locally. No action of bowels, no flatus passed; vomiting, but not fæcal, A stout, plethoric woman, with bad capillary circulation. Hard, tense, prominent swelling about 4 inches in diameter, in umbilical region. Under ether, an incision disclosed a mass of adherent omentum and coil of gangrenous intestine, which had given way in three or four places, and allowed free escape of fæcal matter. About 8 inches of small intestine removed and ends approximated with "Murphy's button" and returned into abdomen. Bore the operation, which lasted about 1½ hours, well, expressed herself very comfortable. Went on satisfactorily first twenty-four hours, then showed signs of commencing delirium, which passed into a state of coma, from which she died about fifty-four hours after operation. *Post-mortem*

"Murphy's button" found to be securely fixed, and had not allowed any oozing; no signs of peritonitis.

The President observed that these three cases exhibited some of the difficulties which may be met with in operating on strangulated hernia, and emphasised the importance of more early operation.

Dr. Evans read notes of a case of cancrum oris. The patient was a male child, aged four years, had had measles five weeks previously. The child was very ill when admitted, the left cheek was considerably swelled, discoloured, and hard; there was a slough the size of a shilling inside the cheek, opposite the last molars; much salivation, breath very offensive; pulse weak and rapid. Under chloroform, the sloughing area was well cauterised with Paquelin's cautery, and afterwards swabbed out with fuming nitric acid. This treatment was repeated ten days later, and again four days after, the area being several times swabbed with strong carbolic acid during the intervals. After this the patient did well, and steadily improved for seven weeks, when the slough reappeared, and the cautery and swabbing with nitric acid had to be again resorted to. Since then the child had shown signs of improvement, and it is now hoped may recover without any further treatment of an active character.

Mr. E. A. Naylor read notes of case in which the President had removed a portion of the lower jaw for malignant disease.

The President read a very amusing paper on "The Humours of the Profession," and the meeting terminated.

BRITISH ORTHOPÆDIC SOCIETY.

The twenty-fourth ordinary general meeting of the British Orthopædic Society was held at the National Orthopædic Hospital, Great Portland Street, W., at 5 p.m., on December 15th, 1900. Mr. D'ARCY POWER occupied the chair.

Mr. Muirhead Little showed a case of infantile paralysis of the left upper extremity, wearing an ingenious instrument which considerably aided the use of the limb.

Mr. Reeves opened a discussion on "Congenital Defects of the Skeleton," and, commencing at the skull and face, passed rapidly over all important skeleton defects, laying stress on those amenable to surgical treatment. His remarks were illustrated by a wealth of material, and a copious supply of photographs and radiographs.

Dealing with the spine he stated that cases of wry-neck, lateral and anterior, or posterior curvature, were due to deficiency of parts of the vertebral bodies, as shown by existing specimens, and the direction of the deviation was determined by whether the defect was lateral or in front, and that, usually, a wedge-shaped piece of bone was found detached, just as occurs in lateral deviation of the fingers and toes. The treatment consists in keeping the neck and spine in a correct position, so as to prevent further contraction of muscles and ligaments on the curved side.

In the *thorax*, hour-glass contraction and congenital epigastric depression were to be treated by respiratory exercises and spinal manipulations acting through the ribs if the child were old enough to be taught.

In the *upper limb*, he pointed out that high position of the scapula, whether single or double, was to be treated by manually depressing the bones so as to stretch the muscles, and said, that though the mal-position was called in Germany "Sprengel's Malady," his paper appeared in 1891, while Mr. Reeves had described it in 1885. He mentioned that exostosis of vertebræ often was present.

Intra-uterine fractures, rickets, and congenital disclocations of shoulder, and absence of clavicles and bones of upper limb, were then dealt with, and also the treatment of club-hand, Finger deviations, syndactyly, polydactyly, brachydactyly and megalodactyly, and their treatment were gone into, and the statement was made that the flap operation for united fingers was not very satisfactory, as a rule, because of the inequality of the adjacent digits.

Defects of the *pelvis* were usually secondary, and had more gynæcological than orthopædic interest.

In the *lower limb* absence or deficiency of the femur, congenital misplacement of hip, coxa vara and valga, absence or misplacement of patella, genu recurvatum and other knee displacements and their treatment were entered into. Absence, partial or complete, of fibula or tibia, fusion of bones and platyenemic tibia and their treatment were discussed, also the rare condition of congenital displacement of ankle. Congenital amputations, and the grooves formed by strangulation by the umbilical cord, were alluded to, and the various deformities of the feet gone into and their treatment discussed.

Mr. Reeves also explained three new operations for Paralytic Calcaneus and Calcaneo-Cavus.

Messrs. D'Arcy Power, Muirhead Little, Keetley, and Blagg joined in the discussion.

REVIEWS.

◆

CERTIFICATION AND CLASSIFICATION OF "DIARRHŒA" DEATHS.*

At a meeting of the Home Counties Branch of the Incorporated Society of Medical Officers of Health, held in April, 1898, a paper was read by Mr. Alfred Ashby, in which he called attention afresh to the vitiation of mortality statistics entailed by the variety of terms used to describe that form of diarrhœa which should be included under the Registrar-General's heading "principal zymotic diseases." Mr. Ashby pointed out the growing unwillingness of practitioners to use the word "diarrhœa" as denoting the malady which has caused the death of the patient, and the tendency to substitute for it some such term as gastro-enteritis, enteritis or gastric catarrh. Yet it is now beyond question that summer or epidemic diarrhœa is a definite specific disorder, and as such it should have a recognised and authoritative name. With the view of putting an end to this unsatisfactory state of things, a committee was appointed by the Branch to enquire into the matter and to report upon the steps which it would be advisable to take in order to procure a remedy. Upon the suggestion of this committee a request was sent to the Royal College of Physicians that they would consider the advisability of adopting some single authoritative name for the disorder. The College acceded to the request, and after consideration of the matter by a specially appointed committee decided that the terms epidemic enteritis, zymotic enteritis or epidemic diarrhœa shall in future be those by which the disorder shall be denoted.

---

* Certification and Classification of "Diarrhœa" Deaths. Rebman, Limited. 1900.

The pamphlet in which this result is recorded has been issued by the Home Counties Branch of the Incorporated Society of Medical Officers of Health, and contains not only the final report of the College of Physicians, but also the reports of its own committee and the original paper by Mr. Ashby. The circulation of the pamphlet is undertaken in order to make as widely known as possible the future official designation of epidemic summer diarrhœa. The point is one of great importance, and it is to be hoped that every effort will be made by the profession to adopt the new terminology.

VASECTOMY RELATIVE TO PROSTATIC DISORDERS AND CATHETER LIFE.*

THIS small volume, containing some sixty pages, consists of several papers relating to the treatment of enlarged prostate by division of the vas on both sides. Mr. Reginald Harrison is a well-known advocate of this operation, and has had an exceptionally large experience of it; but he does not hold that it is infallible, and does not favour its performance in all cases of enlarged prostate. For instance, he holds that, when the prostate is fibrotic and the enlargement takes the form of a pedunculated mass, or when the enlargement is due to the presence of an isolated mass of prostatic tissue resembling an adenoma, prostatectomy is the most suitable operation. But he does hold that, when the enlargement is due to vascular engorgement, more or less chronic, division of both vasa deferentia can be depended upon to diminish the size of the gland. But, with regard both to double castration and double vasectomy, there arises the question: Is the diminution in size of the prostrate sufficient to cause any real improvement in the patient's condition, and, if the diminution in size is sufficiently marked, is the muscular tissue of the bladder-wall in a state to take advantage of the altered condition of affairs?

As Mr. Reginald Harrison says, the operation of vasectomy must not be taken to have failed, because it has not restored the power of natural micturition; for he cites the cases of patients, who have been compelled to use the catheter every few hours and in whom catheterisation has been very painful, but who, after the performance of vasectomy, have had to pass the catheter only once or twice a day, and have been able to do so without causing themselves pain. The cases, in which the operation seems to have been most successful, are those in which the vasa have been divided at the very commencement of catheter life, that is, when the muscular power of the bladder is not markedly impaired.

---

* Vasectomy Relative to Prostatic Disorders and Catheter Life. By Reginald Harrison, F.R.C.S. London: J. and A. Churchill. 1900.

Mr. Reginald Harrison discusses the merits and demerits of double vasectomy in a thoroughly impartial and scientific manner, and we can recommend his book as being well worthy of close attention.

FRACTURES.*

THIS is another of the American works with which we are all becoming so familiar. It is an admirably printed and copiously illustrated book of 325 pages. In it the author attempts to encompass within a systematic treatise the important essentials of Röntgen ray literature in so far as it relates to fractures. The use of the rays has, to a large extent, revolutionised our knowledge of bone lesions, but so far, no attempt has been made to collect and systematise the information so gained. At present, the literature of the Röntgen rays is widely scattered, and consists of little more than tentative sketches or preliminary communications.

The illustrations consist mainly of skiagrams, for the most part taken by the author, shewing the actual condition of the bones in varions types of fracture. The illustrations form the most valuable part of the book and will repay careful study, more especially so, as no attempt has been made to alter or modify the original photographs for the sake of effect. Anyone, who has worked with the Röntgen rays, must have been struck with the difficulty that is met with in correctly interpreting the meaning of the skiagram. It is only after much practice that one can arrive at certain and exact conclusions. Consequently, the careful examination of a number of unmodified skiagrams, the meaning of which is clearly set down, is of great value.

---

* Fractures. By Carl Beck, M.D. Philadelphia: W. B. Saunders and Co. 1900.

New methods for the treatment of fractures are also briefly dealt with.

The book closes with an appendix on the practical use of the Röntgen rays, and a description of the different forms of apparatus in common use. In it are also many practical hints as to the best way of radiographing various parts of the body in order to obtain the best results. This part of the book will be of great use to those who are novices at X-ray work, and will do much to abolish the mystery which in the minds of so many medical men surrounds the X-ray apparatus.

On the whole, the book is an effort to convey in a useful and concise form the information that has been gained from the use of the Röntgen rays, of the diagnosis, pathology, and treatment of fractures; and we can recommend it not only to those who are engaged in radiography, but also to those who wish to understand more clearly and more accurately than was possible in the past, the nature of the lesion in a recent fracture in the living body.

OUTLINES FOR DISSECTORS.*

THESE are a series of outline sketches of the parts exposed in the recognised dissections. The idea is that the student should expose and identify each structure as he proceeds, and when the dissection is completed should mark in the outline sketch the various structures in different coloured chalks, in this way necessitating careful observation, and at the same time preparing a permanent record of his work for future use.

The author has found the plan of considerable use in the St. Thomas' School of Anatomy.

---

* Outlines for Dissectors. By F. G. Parsons, F.R.C.S. John Bale, Sons, and Danielsson, Limited, London.

The principle seems to us a good one, but its chief drawback is the amount of time it must necessarily involve. The dissecting room also is scarcely a place in which to elaborate clean and picturesque drawings in coloured chalks. Still to those to whom this method of learning anatomy appeals, these outline sketches will be of considerable use.

PARALYTIC DEFORMITIES OF THE LOWER EXTREMITIES.*

THE purpose of this work is to deal with the results of paralysis of the lower extremities, and no attempt is made to describe every particular kind of paralytic deformity.

A fairly exhaustive description is given of the various operative methods adopted and mechanical apparatus applied by the author to combat these various conditions. I do not find anything that we may describe as original in his ideas, or new in his treatment.

The major part of the work is devoted to a description of the numerous cases which have come under his care. These are interesting and instructive.

THE EDINBURGH MEDICAL JOURNAL, VOL. VIII.

NEW SERIES.

WE have to acknowledge the receipt of the second volume of the *Edinburgh Medical Journal* for 1900, which contains many interesting articles. Among these we notice one by Dr. R. E. Williamson, on the "Clinical Forms and Pathological Anatomy of Spinal Syphilis;" Clinical Lectures on Circulatory Affections, by Dr. G. A. Gibson; and "Acute Infantile Intussusception," by Mr. W. B. Bell. We can cordially congratulate both the editor and publisher on the style of the present series of the *Edinburgh Medical Journal.*

---

* Paralytic Deformities of the Lower Extremities. By Noble Smith. Smith, Elder and Co. 1900.

INDEX CATALOGUE OF THE LIBRARY OF THE SURGEON GENERAL'S OFFICE.*

We acknowledge with pleasure the receipt of another volume of this famous Catalogue and Index of Medical Literature. The work is too well known and too well appreciated to need any commendation.

CLINICAL SOCIETY'S TRANSACTIONS. VOL 33

THIS volume of Transactions contains many articles of interest, among which we notice two on Hæmopneumothorax, by Drs. H. D. Rolleston and G. Newton Pitt. Drs. Prickett and Butlin contribute an account of acute encephalitis following on influenza. As a result of this disease encephalitis is very interesting, and has now come to be recognised as one of the worst sequelæ, especially as it may supervene in cases of but slight severity.

Dr. Pasteur's article on Myxædmæ supervening on Grave's Disease is interesting, especially as a full *post-mortem* account is given.

The various clinical cases are also instructive.

---

* Index Catalogue of the Library of the Surgeon General's Office. Second Series. Vol. 5.

MANUAL OF PERSONAL HYGIENE.*

As may be gathered from the title, this book deals with the physiology of the different systems in relation to health and its preservation. The first chapter is on the hygiene of the digestive apparatus, and much emphasis is laid on the care of the teeth. A long chapter is devoted to the eye, and goes somewhat more deeply into detail than is perhaps necessary in a work of this description. Throughout, the book contains much useful information, and is well adapted for teachers or those who have to get up lectures on physiology or hygiene.

STUDIES IN PSYCHOLOGY OF SEX.†

While, no doubt, the psychology of sex is a most interesting and important study, especially to those who have to treat mental and nervous diseases, still, the subject is one that requires handling in a strictly scientific manner. Superabundance of detail and illustration may detract from such a work and give it an appearance of not being exactly healthy in tone. Thus, it is impossible to be too careful in stating facts of the kind incidental to the subject of sex, in the plain and cold language of science. To dwell unnecessarily on details is not to be commended.

New Books, etc., Received.

From Baillière, Tindall, and Cox -

Arsenical Poisoning in Beer Drinkers. By Kelynack & Kirdby.
Uterine Tumours. By Roger Williams, F.R.C.S.

---

*Manual of Personal Hygiene. Edited by Walter L. Pyle, A M., M D. Philadelphia : W. B. Saunders and Co.

† Studies in Psychology of Sex. Havelock G. Ellis.

From H. K. Lewis, London—

A Contribution to the Study of the Blood and Blood Pressure. By GEORGE OLIVER, M.D.

Diseases of the Thyroid Gland. By GEORGE MURRAY, M.A., M.D. Part i.

Hygiene and Public Health, By LOUIS PARKES, D.P.H., and HENRY KENWOOD, M.B., D.P.H,

From F. A. Davis and Co, Philadelphia—

A Text Book of Practical Obstetrics. Third edition.

From Felix Alcan, Paris—

Manuel d'Histologie Pathologique. Par J. CORNIL ET L. RANVIER. Troisième edition. Vol i.

We have also to acknowledge—

Organo Therapeutics in Mental Diseases. By C. C. EASTERBROOK.

Rules for Consumptives. From the Resident Medical Officer, the Sanatorium, Bournemouth.

⁂ Authors can have reprints of articles at the following rates:—

Not exceeding 8 pages	...	8/-	per 100
„ 16 „	...	12/6	„

The re-arranging of the type is the principal cost in the production of these reprints, so that smaller numbers will be the same price. Larger numbers at a proportionate reduction.

The Subscription to the *Birmingham Medical Review* is 6s. per annum, post free.

NOTICE.—*All Communications, Exchanges, and Books for review, should be sent direct to the Printers and Publishers Messrs. Hall and English, 36, Union Street, Birmingham.*

THE
BIRMINGHAM MEDICAL REVIEW.
MARCH, 1901.

ORIGINAL COMMUNICATIONS.

A CONSIDERATION OF THE CLINICAL ASPECTS OF LOCALISED ABSCESS RESULTING FROM APPENDICITIS.*

BY LEONARD GAMGEE, F.R.C.S. ENG.,
ASSISTANT SURGEON TO THE GENERAL HOSPITAL;
SURGEON TO THE CHILDREN'S HOSPITAL, BIRMINGHAM.

Mr. President and Gentlemen,

The subject of appendicitis is too large a one to attempt to cover in one short paper, and so I propose this evening to confine myself to some remarks upon that variety of appendicitis, which results in the formation of a localised collection of pus. It is not my intention to consider the subject of non-suppurating recurrent appendicitis, or that of general suppurative peritonitis resulting from perforation of the appendix. Again, I do not propose to discuss the causation and symptoms of appendicitis in general; but shall rather treat of those symptoms which, appendicitis having been diagnosed, suggest to us that suppuration has taken place.

It is necessary to begin with a few words as to the method of formation of the localised abscess. The vermiform appendix being inflamed, inflammation of the peritoneal covering of the appendix takes place and results in the formation of adhesions binding the appendix to neighbouring structures, as for instance the cæcum, small intestines, or omentum. Then, sometimes as the result of perforation of the appendix, sometimes without a gross perforation, pus forms in the midst of the adhesions. The pus increases in amount and the result is the formation of an abscess, the walls of which are formed by intestines, etc., matted together by adhesions more or less firm. The seat of the abscess varies very much and depends on the length of and the direction taken by the vermiform appendix. The length of the appendix may be anything from one inch to six inches, or more. It is situated as a rule behind the cæcum, and takes a direction upwards and inwards or upwards and outwards, most commonly the former. On the other hand, the appendix may take quite a different direction and hang over the brim of the true pelvis. The seat of the abscess varies with the direction of the appendix. Thus its most usual position is in the right iliac region; but in other cases the pus may run upwards and point in the lumbar region, or may run upwards behind the ascending colon and ultimately form a sub-diaphragmatic abscess. More rarely the abscess forms in the pelvis, and more rarely still, I think, in a position where I remember once opening an abscess of this kind, namely, between the umbilicus and the right costal arch. It may be reasonably doubted whether, in this last-mentioned case, the abscess really resulted from appendicitis; but on consideration I came to the conclusion that it did so. The patient was a child aged 11, who was suddenly seized with general, severe abdominal pain: distension and all the symptoms of general peritonitis gradually supervening. On the 14th day after the onset I saw the patient and found an ill-defined swelling in the position already mentioned. An incision was made over the swelling and a large quantity of pus and foul gas let out. It was felt with the finger introduced that the liver formed the upper boundary of the cavity. There are two possible explanations of the formation of an abscess, due to appendicitis, in the upper part of the abdomen. They are:—

---

* A Paper read before the University of Birmingham Medical Society (Queen's College Medical Society) on January 9th, 1901.

1. The pus may travel upwards behind the ascending colon and form a sub-diaphragmatic abscess. But a sub-diaphragmatic abscess, arising thus, is retro-peritoneal in its position, while in the case I am speaking about the abscess was most certainly intra-peritoneal.

2. The second explanation and, I think, probably the correct one is that the cæcum may, owing to an error in development, be situated immediately beneath the liver, and hence an abscess arising from appendicitis would in such a case point in the position I am now speaking of. Of course, the abscess in this patient might have been due to a gastric or duodenal ulcer, or to a perforation of the transverse colon; but such a cause may, it seems to me, be fairly put out of court in the case of a child of eleven.

Luckily, an appendical abscess has a great tendency to point on the surface of the abdomen; but it may burst into the general peritoneal cavity, or into some part of the intestine, or even the bladder. As an example of an abscess bursting into the intestine, I may quote the case of a girl of 19, whom I saw on May 6, 1900. An attack of appendicitis had begun four days previously, and when I saw the patient she had all the symptoms leading one to suspect the presence of pus in the right iliac fossa. On cutting down, the deeper layers of the abdominal wall were found to be œdematous, and the adherent cæcum and small intestines were covered with lymph, but no collection of pus was found. A drainage tube was put in and the patient recovered. Now comes the curious part of the history. On putting the patient back to bed, the under-sheet was found to be stained with what looked and smelt like offensive pus. On questioning the nurse it transpired that some time during the previous night the patient, while coughing, felt a sudden, severe pain in the right iliac region, and shortly afterwards she discharged a quantity of pus from the rectum. This seems to be clearly an instance of the bursting of an appendical abscess into some part of the large intestine.

THE SYMPTOMS OF SUPPURATION.

I pass now to the consideration of the question—what symptoms, arising during the course of a case of appendicitis, give grounds for suspecting the formation of a localised abscess? In considering this it seems convenient to divide the cases into two main classes:—

(*a*) The fulminating cases, in which the symptoms are very severe from the first, and in which an abscess forms in a few days' time.

(*b*) The cases of quiet suppuration, in which suppuration takes place more slowly and without any very severe symptoms.

THE FULMINATING CASES.

It will be convenient to divide the symptoms into groups, and to endeavour to assess their value in answering the question—is there pus present, or is there not?

The onset.—This is usually sudden. The patient feels great abdominal pain, which is referred to the umbilicus. There is generally vomiting, sometimes diarrhœa, and sometimes constipation. The temperature is raised and the pulse rapid. The pain after a time is referred to the right iliac fossa, and tenderness is present in this region. But at this stage it is impossible to tell whether suppuration will take place or not, for often symptoms very severe at first quickly subside. In the forefront of all the symptoms of suppuration I would place the fact that on the 5th or 6th day these symptoms that I have enumerated, instead of showing signs of subsidence, have continued, or even increased in severity. To discuss now the symptoms of suppuration in detail: —

1. The patient's aspect is as a rule bad, the tongue coated, and the lips dry. The presence of these symptoms is important; their absence is unimportant, for in many instances of rapid abscess formation the patient's aspect is good.

2. The temperature is as a rule raised, but not to a great height, a temperature of 102° or so being common. But here

again, while an elevation of temperature is important, a normal or sub-normal temperature is quite consistent with the presence of pus. As examples of this combination of a low temperature with the presence of an abscess, I may quote the case of a patient, upon whom I operated on the second day of the attack and found pus, the temperature at the time of operation being 99°, and that of another with a temperature of 99·8°, in whom I found an abscess on the fourth day. This low temperature combined with the presence of an abscess is not in my experience common. Indeed, it is not so common as is the combination of a low temperature with the presence of general suppurative peritonitis.

3. The pulse-rate gives far more valuable and distinct indications of the presence of pus than does the temperature chart. The pulse-rate in cases of fulminating suppuration is almost always rapid, and generally very rapid. For instance, in the two cases that I have just spoken of, in which the temperature was only just above normal, the pulse-rates were 120 and 142 respectively. In other cases I have noted a temperature of 102° with a pulse-rate of 144, and a temperature of 99·6° with a pulse-rate of 120. In fact, when at the end of a week after the commencement of an attack of appendicitis the pulse-rate is persistently above 100, a very grave suspicion of the presence of an abscess must be raised. There are, however, exceptions to this general rule; for instance, I have notes of one of my cases, that of a man in whom I found pus behind the cæcum on the seventh day of the attack, the temperature being 100° and the pulse-rate 60.

4. The abdominal wall is nearly always rigid. The respiratory movements are less marked than they normally are all over the abdomen, but more especially is this the case over the lower half of the abdomen. This, of course, is the case as a rule in the early stage of an attack of appendicitis without the presence of pus; but it is a sign which, taken in conjunction with the other symptoms and signs I have mentioned, strengthens one's belief that pus is present.

5. General distension of the abdomen is, as a rule, present in these fulminating cases, and is due sometimes merely to tympanites, sometimes to commencing general peritonitis. As a rule there is no localised bulging visible. A peculiar symptom is, however, sometimes present, namely, retraction of the abdominal wall. This is a symptom which one would not expect to accompany the formation of an intra-peritoneal abscess; but, in my experience, it occurs with sufficient frequency to be an important symptom. Out of 22 cases of localised appendical abscess upon which I have operated, the abdominal wall was in two cases most markedly retracted. The first case was that of a boy, from whom I let out pus from behind the cæcum on the third day of the attack, and the other, that of a man, in whom I found pus on the seventh day. In both these cases the abdominal wall was very rigid and so retracted as to be distinctly concave from above downwards. This symptom of retraction with rigidity of the abdominal wall, when combined with other symptoms of appendicitis, I look upon one as of the features about a case most clearly indicating the necessity for operation. It seems to mean that a serious amount of inflammation is present, and that there is either a localised collection of pus, or a commencing general peritonitis.

6. Pain and tenderness are always present, but may be masked to a certain extent if opium has been given. In these severe cases it is very common for the patient to have pain all over the abdomen, but most marked in the right iliac region, and the same may be said about the tenderness. I do not think that the symptom described by McBurney, namely, the presence of a tender spot along a line drawn from the umbilicus to the anterior superior iliac spine, is of much importance, for the tenderness in a case of acute abscess formation is generally diffused over a large area.

7. The presence of a distinct lump is by no means constantly made out. Instead, in a great number of cases, all that is felt upon palpation is the presence of a very distinct rigidity of the

abdominal wall in the right iliac region. But when this rigidity is combined with other symptoms, it must be looked upon with the same suspicion as would be the presence of a clearly defined swelling When I say this I am bearing two facts in mind:—

(*a*) That in a very acute case, the pus is contained by such frail adhesions that no distinct outline can be felt.

(*b*) That the muscular rigidity of the abdominal wall is too marked to allow of palpation deep enough to feel the swelling.

However, I should like to lay stress upon the fact that the outline of the swelling can almost invariably be made out, when the patient is fully anæsthetised.

8. The character of the percussion note over the area of resistance is variable As a rule the note is dull, or its resonance greatly impaired; but at other times it is quite resonant. This resonance may be due to one of two causes:—

(*a*) Intestines are lying between the collection of pus and the abdominal wall.

(*b*) The abscess cavity itself contains gas.

Hence, in determining the presence or absence of pus, too much stress must not be laid upon the character of the percussion note.

9 In examining a case of this kind it is always well to make a rectal examination, for by it an abscess pouching down into the pelvic cavity can sometimes be felt.

THE CASES OF GRADUAL SUPPURATION.

I pass on now to consider the symptoms, which would lead us to suspect the gradual or quiet formation of an abscess in a case of appendicitis. As a rule, this occurs in patients in whom the onset of the attack has been milder than in the cases of fulminating suppuration. The shortest way to illustrate the symptoms will, I think, be to quote brief details of a case, which was under my care rather more than a year ago:—

A boy, aged 9, on Oct. 6th, 1899, felt some pain in the right iliac region. The pain was not very severe and he had no vomiting. The next day the pain was better, but it did not wholly disappear and so on Oct. 11th, on the fifth day of the attack, he was brought to the Children's Hospital. The boy did not then look ill, but he had a distinct swelling in the right iliac fossa, his temperature was 99·2° and the pulse-rate 104. During the next week the swelling became smaller, but the temperature ranged from 98·6° to 100·6° and was only once below 99°, whilst the pulse-rate varied from 88 to 112. Now, here was a patient, whose swelling was lessening in size, who had no pain and hardly any tenderness, but whose temperature and pulse-rate were persistently above normal. On the 14th day of the attack the swelling became distinctly larger and more tender and so I cut down and let out about two ounces of pus.

I have given particulars of this case, because it is a very good example of its class. In these cases the more or less acute symptoms of the onset often subside, except in one respect, and that is that the temperature continues to be slightly elevated and the pulse-rate quicker than it should be. Notwithstanding that the pain may be less and the lump smaller, this combination of a continued elevation of temperature and rapidity of pulse-rate is a pretty sure indication that pus is present. If, also, the lump is getting larger and the tenderness more marked, then the presence of pus is even more surely indicated. That these symptoms are not infallible may be seen by giving a moment's attention to the case of a man, whose third attack of appendicitis began on April 28th, 1899. The acute symptoms subsided in a few days, but on the thirteenth day the temperature went up to 103° and the pulse-rate to 100, while the pain and tenderness reappeared. I operated, but no pus was present. I give this case as an exception, though as a matter of fact the symptoms I have been laying stress on were not properly shown, for what really occurred was a sharp recrudescence of symptoms rather than a long continuance of them.

In these remarks I have tried, as far as possible, to assign their relative value to the symptoms shown by these two classes of suppurative appendicitis; but, however careful we may be, we shall sometimes diagnose that pus is present when it is not, or that it is not present when it really is. For my own part, in deciding what course is to be taken in a really doubtful case, I always am inclined to give the patient the benefit of the doubt, and in this instance I am sure we give the benefit of the doubt by operating and not by waiting.

Treatment.—The treatment of a case, in which the diagnosis of appendicitis with a localised abscess has been made, may be summed up in one word—operate. But a good deal may be said as to the time when to operate, and as to the exact operative procedure. As time goes on the wall of the abscess becomes adherent to the peritoneum lining the anterior abdominal wall, and hence it becomes possible to open the abscess without entering the general peritoneal cavity. If adhesions between the abscess wall and the anterior abdominal wall have not formed, then, in opening the abscess, the general peritoneal cavity is entered, and there is a consequent risk of the onset of general septic peritonitis. Hence it is the practice of some surgeons, and I myself have seen this practice carried out, to delay operation for such a time that there can be no reasonable doubt that the necessary adhesions have formed. In favour of this practice may be urged—(1) that the operation is easier; and (2) that the general peritoneal cavity is not entered. Against this practice may be urged the fact that, during the period of waiting, the abscess may burst into the general peritoneal cavity. Now it has been my experience that, provided due precautions be taken, there is hardly any additional risk, if the general peritoneal cavity is opened; not, I am sure, so great a risk as is incurred by waiting. Hence it is my custom to operate at once, when I consider that pus is present.

In cutting down to let out pus from an appendical abscess, it is well to make the incision rather external to the centre of the swelling or area of resistance. I do this for two reasons:—

1. That the desirable adhesions are most likely to be found there.

2. That, should the general peritoneal cavity be opened, it is easier to prevent the diffusion of pus all over the abdomen when the incision has been made well to the outer side.

In cutting through the abdominal wall, if the deeper layers of the wall are œdematous, it may be presumed that the abscess wall is adherent to the parietal peritoneum. To reach the pus the incision should be deepened at that part where the œdema is most marked, and when the pus has been let out, a large rubber drainage tube should be put in, the appendix not being searched for, and the cavity not being washed out; for to do either of these last is to run the risk of breaking down adhesions, and so causing general peritonitis.

If, before the pus is reached, the general peritoneal cavity is found to be opened, I put in long strips of iodoform gauze packing, so as to thoroughly shut off all access to the general peritoneal cavity, leaving exposed the spot where the most dense adhesions are situated, and that is generally to the outer side of the cæcum. Then with the finger I separate the adhesions on the outer side of and behind the cæcum, till the pus is reached. As soon as the pus begins to flow, the patient is turned well over on to the right side and the pus runs out over the hollow of the iliac fossa. The packing is left in position and is only taken out bit by bit as it loosens during the subsequent course of the case. I always avoid putting in temporary packing, as lint or sponges, for shutting off the peritoneal cavity, as, in taking out the temporary packing and putting in the permanent one, a great risk is run of introducing septic material into the general peritoneal cavity.

I find I have operated on 22 patients suffering from a localised abscess resulting from appendicitis. Of these 22, 20 recovered and 2 died. In 13 of the cases the general peritoneal cavity was not opened, and all the 13 patients got well. In 9, the general peritoneal cavity was opened, and of these 9 patients, 7 recovered and 2 died. In these two last cases, it was found *post-mortem* that the general peritoneal cavity was completely shut off and that there was no general peritonitis, death being due in both instances to pneumonia. In neither of the cases was death attributable to the fact that it had been necessary to open the general peritoneal cavity in searching for the pus.

TABLE OF CASES.

No.	Age.	Date of Operation.	Result.	Remarks.
1	16 yrs.	Apl. 15, 1895	Cure	General peritoneal cavity not shut off by adhesions. Appendix removed.
2	12 „	Mar. 5, 1897	Cure	Peritoneal cavity shut off. Appendix not removed.
3	9 „	Mar. 29, 1897	Cure	Peritoneal cavity not shut off by adhesions. Connection found. Appendix not removed.
4	17 „	July 31, 1897	Cure	Peritoneal cavity not shut off by adhesions. Appendix not removed.
5	16 „	Aug. 31, 1897	Cure	Peritoneal cavity not shut off by adhesions. Appendix not removed.
6	11 „	Nov. 25, 1897	Cure	Abscess situated above umbilicus. Peritoneal cavity shut off by adhesions. Appendix not removed.
7	8 „	Feb. 11, 1898	Cure	Peritoneal cavity shut off by adhesions. Appendix not removed.
8	9 „	Sep. 7, 1898	Death	Peritoneal cavity not shut off by adhesions. Appendix not removed. Death on 7th day from pneumonia. *Post-mortem* examination showed that, in the evacuation of the pus, the peritoneal cavity had not been infected.
9	7 „	Oct. 22, 1898	Cure	Peritoneal cavity shut off. Appendix not removed.
10	8 „	Dec. 21, 1898	Cure	Peritoneal cavity shut off. Appendix not removed.
11	16 „	Mar. 30, 1899	Cure	Peritoneal cavity shut off. Appendix not removed.
12	8 „	Aug. 2, 1899	Cure	Peritoneal cavity shut off Appendix not removed.
13	24 „	Sep. 2, 1899	Cure	Peritoneal cavity not shut off. Appendix not removed.

TABLE OF CASES—*Continued.*

No.	Age.	Date of Operation.	Result.	Remarks.
14	13 yrs.	Oct. 6, 1899	Cure	Peritoneal cavity shut off. Appendix not removed.
15	9 „	Oct. 20, 1899	Cure	Peritoneal cavity shut off. Appendix not removed.
16	21 „	Jan. 2, 1900	Death	Peritoneal cavity not shut off. Appendix not removed. Death from pneumonia on 9th day.
17	19 „	Apl. 18, 1900	Cure	Peritoneal cavity not shut off. Appendix not removed.
18	19 „	May 6, 1900	Cure	Peritoneal cavity not shut off. Appendix not removed. Abscess had burst into large intestine.
19	29 „	Aug. 10, 1900	Cure	Peritoneal cavity shut off. Appendix not removed.
20	10 „	Aug. 28, 1900	Cure	Peritoneal cavity shut off. Appendix not removed.
21	9 „	Oct. 16, 1900	Cure	Peritoneal cavity shut off. Appendix not removed.
22	6 „	Nov. 10, 1900	Cure	Peritoneal cavity shut off. Appendix not removed.

ON THE VARIETIES AND TREATMENT OF PROLAPSE OF THE UTERUS AND VAGINA.*

BY THOMAS WILSON, M.D. LOND, F.R.C.S. ENG.

WHEN a woman complains that her "womb is down," she does not necessarily mean what medical men understand by the term, but is merely translating her sensation into terms which have taken their origin from the mechanical system of uterine pathology, a system that has dominated gynæcology from time to time, and that has been wont to ascribe all diseases peculiar to women to some alteration or other in the position of the uterus. All that the patient means by the expression is that she is conscious of some abnormal sensation in the pelvis or vulva. Exact diagnosis here, as in all other diseases of the female pelvic organs, must rest on careful objective physical examination, and the fascinating idea of a simple method or system that shall embrace all diseases is soon found to be a useless and misleading conceit.

In normal circumstances no part of the uterus or vagina is found to protrude through the orifice of the vagina into the vulva, even on straining. The object of the present communication is to deal with those cases in which such a protrusion has taken place. In different cases it may be observed that some parts not only of the uterus and vagina, but also of the neighbouring organs to the latter, the bladder and the ampullary portion of the rectum, have escaped from the interior of the pelvis. The different forms of the affection have much in common; they are frequently found to be combined, and transition forms between different groups are common; they are all of them due to similar pathological changes; and all are brought about by the same or similar causes. I propose, therefore, to use the term prolapse, which is the common name applied to these affections, in its widest sense, as meaning the escape through the orifice of the vagina of some part or parts of the internal pelvic organs, of structures in short which are situated normally inside the pelvic cavity.

---

* A paper read at the Midland Medical Society on November 14th, 1900.

Taking the term prolapse in this general sense, the first fact of importance to be noted is the extreme frequency of the affections included under it. A little while ago I examined my notes of 5,221 patients, suffering from diseases peculiar to women, and found among them 304 cases, equal to 5·78 per cent, of prolapse. That is to say, about one patient in every 17 had some form or other of this affection.

If we now enquire into the circumstances under which prolapse is found, we are at once struck by the relation of the affection to the condition of parity. Of the 304 cases just mentioned, six only, or about two per cent. occurred in women who had not been pregnant. In 281 of the cases, the number of pregnancies had been noted, and of these 71, or fully 25 per cent. had had eleven or more pregnancies, while the average number to each case was 6·7, a number well above the average in all married women. From these figures it appears that prolapse occurs with infrequent exceptions in women who have borne children, and that it is especially common in those who have borne many children It is further evident, that the condition does not interfere with fertility; neither does it conduce to the premature termination of pregnancy, for the average number of 6·7 pregnancies to each patient is made up of 0.8 miscarriages to 5·9 labours at term, a proportion of about 1 to 7½, which is not far removed from that found in all fertile women.

The age on applying for treatment varied in the 304 cases from 20 to 76, three coming at the age of 20, and four at the ages of 70 and upwards. 85 patients, a little more than a quarter of the whole number, or 27·9 per cent., to be exact, were under the age of 35, while 139, equal to 45·6 per cent., or not much less than half the total, had attained the age of 45 and upwards.

The complete examination of a case of prolapse is conducted in the following manner. The patient lies on the left side or on the back with the knees drawn up; examination in the erect posture is sometimes recommended, and may possibly be found useful occasionally. The first step in the observation consists in a careful inspection of the vulva and perineum, and this is followed by palpation and bimanual examination, so that the condition, more especially with respect to dilatability, of the pelvic floor and of the orifice of the vagina, and the position, size, and mobility of the uterus, may be made out. The prolapse will nearly always have disappeared on the patient assuming the horizontal position. She is now made to bear down, so that the prolapse may be extruded; it may be necessary to assist the patient by pressure on the hypogastrium, or to pull on the cervix with a volsella. The parts implicated in the prolapse are now accurately made out, and while the extrusive effort is in progress the order in which the different structures come down is carefully noted. This order is the same as that in which the prolapse has gradually developed; it shows, so to speak, the history ot the affection in a rapid sketch.

The next stage in the examination, the prolapse now being reproduced, is to feel what structures can be made out inside the tumour, observing, for instance, the thickness of the cervix, and whether the whole or only part of the uterus can be made out. The sound is then passed to determine the length and direction of the uterine cavity; the vesical sound shews to what extent the bladder is prolapsed, and finally the finger in the rectum ascertains whether that organ is implicated in the prolapse

Procidentia, prolapse, and falling of the womb, the names usually applied to the cases we are considering, convey an entirely erroneous impression. The uterus does not fall in any sense of the word; it is pushed out of its place, extruded by the intra-abdominal pressure. Prolapse is, in fact, a hernia brought about by the same exciting causes as other herniæ, and due to the yielding of a particular part of the abdominal wall, the pelvic floor. Other herniæ, femoral, inguinal, or umbilical, are occasionally found to coexist with the prolapse, as also is prolapse of the rectum (three times in 304 cases), another affection with a similar causation; but the frequent occurrence of prolapse in women affords a part at least of the explanation of the fact that the other kinds of herniæ are, as a whole, much less common in females than in males. Direct evidence can often be found of the action of the intra-abdominal pressure in bringing about prolapse, as for instance, in cases of cystocele with hypertrophic elongation of the cervix. Here the pressure acts through the bladder and leads to elongation of the anterior vaginal wall, to eversion of the cervix, and sometimes to elongation of its anterior lip. The absurdity of calling the affection prolapse or falling would not so much matter, did not the wrong idea conveyed by the term sometimes lead to erroneous methods of treatment, as for example hysterectomy.

If we compare prolapse to other varieties of hernia we find that there is a sac with a neck and contents. The neck of the sac is wide, and so we get only a mild degree of strangulation represented by more or less marked venous congestion of the extruded parts. The sac is formed by some part or the whole of the vaginal walls, and by the cervix uteri; the superficial coverings, the skin and subcutaneous fascia and fat are wanting. The layers in the wall of the sac are, from without inwards, the wall of the vagina, the pelvic connective tissue, and the peritoneum. The contents of the hernia may include the body of the uterus, part of the bladder, and of the ampulla of the rectum, and sometimes intestine and omentum.

Cases of prolapse may be classified according to the degree or extent to which the affection has attained, and also, according to the organ which takes the lead in the process. The pelvic floor is rarely equally weakened as a whole, and where, as is commonly the case, one portion of it is especially impaired, either the uterus, the vagina, the bladder, or the rectum first comes down. The cases may be divided in the first place, into complete, where the whole of the uterus and vagina are prolapsed, and incomplete; and it is convenient to divide the latter class again into an earlier or less advanced, and into a more advanced stage. In my notes, there are in 260 cases, sufficient details to allow of classification under these heads. Of the 260 cases, in 12 there was complete prolapse, and of the other 248 cases, 59 belonged to the advanced, and 189 to the earlier stage of incomplete prolapse.

Taking first, the less advanced stage of incomplete prolapse, the 189 cases are found to group themselves into varieties, according to the part chiefly implicated. In the first of these varieties, comprising 51 cases, there was protrusion of the lower end of one or both vaginal walls; most commonly (37 cases) both walls were everted; next most commonly (11 cases) the anterior wall; and rarely (3 cases) the posterior wall alone. This condition of eversion of the vagina appears to depend partly on a patulous condition of the vulva, either permanent or easily brought about by straining, and partly on swelling or relaxation of the vaginal walls themselves, due sometimes to pregnancy, but most commonly to subinvolution and its effects.

In the second group of 34 early cases, the cervix protruded at the vulva, the uterus being then always retroverted, and the upper end of the vagina drawn down or inverted by the descending cervix. The special features in this group were the presence of a stiff and heavy retroverted uterus, or of elongation of the vaginal portion of the cervix. Marked elongation of the vaginal cervix was present in 16 of the cases, and among these were four out of the six cases of prolapse observed in nulliparæ, and four other patients who had each borne only one child; in seven-eighths of the patients there were five children or less. In some of the cases the elongation was probably primary and had aided in bringing about prolapse, but I believe that in several of the others, the prolapse was primary and the cervical elongation secondary.

In addition to the 85 cases just mentioned, in 31 others eversion of the lower end of the vagina coexisted with prolapse of the retroverted uterus; these cases form, therefore, a mixed group, partaking of the characters of both the varieties above referred to.

The next groups of cases of prolapse depend upon the extrusion of the neighbouring organs to the vagina, viz., the bladder and rectum; in 47 cases there was protrusion of the bladder or cystocele, and in 12, the ampulla of the rectum was implicated, forming rectocele. Both these conditions depend essentially on actual or potential gaping of the vulva; in rectocele there is also found almost invariably a very short and thin perineum, the perineal body having been torn down to and partly through the sphincter. The anterior wall of the anal canal is thus very thin, but the sphincter remains, nevertheless, functionally capable. With such a perineum, when the patient is upright, a portion of the rectal ampulla projects forward in front of the vertical level of the anal canal, and straining efforts cause the contents, solid or gaseous, of the rectum to push the projecting portion of the ampulla through the vulvar orifice, carrying the lower part of the posterior vaginal wall in front of it. In one case I observed a small scybala which constantly came down in the pouch of a rectocele when the patient strained, and this appeared to be very effectual in increasing the protrusion.

While thus, by offering a point of resistance to straining efforts, a thin but functionally capable perineum is a chief factor in the production of rectocele, complete rupture of the perineum, by doing away with this point of resistance, at the same time tends to prevent the evil effects of straining at stool, one of the chief factors in the causation of prolapse. Thus, complete rupture of the perineum coexisting with prolapse was observed in only five out of my 304 cases.

The groups of cases that have now been mentioned, depend for the most part upon alterations in the connective tissues supplying the viscera in their normal positions on the pelvic floor, or on some localised or partial affection of the floor itself. In another group of 14 cases, the affection appeared to consist essentially in great dilatability of the whole pelvic floor. In the most marked of these cases, when the patient was at rest, the floor appeared to be normal, but it was found to be capable of being stretched either by the observer or by bearing-down efforts of the patient, to a sufficient extent to have transmitted a fœtal head; when the floor was thus distended, the vulvar and anal apertures were stretched open just as in the second stage of labour. In such cases, the anterior vaginal wall is pushed through the vulvar aperture by the extrusion of the bladder, so that cases belonging to this class gradually shade off into the cystocele group.

In the examination of the early cases of incomplete prolapse it has appeared that eversion of the vagina is the most common variety, that primary descent of the uterus comes next, then cystocele, and finally rectocele is the least common.

In the advanced class of the incomplete variety of prolapse, I place 54 cases of cystocele and 5 of rectocele, all accompanied by hypertrophic elongation of the cervix. The cavity of the uterus in these cases varied from 3½ ins. to 6½ ins. in length, the measurement in by far the largest number of cases lying between 4½ ins. and 5½ ins. It is an interesting fact and one that has not so far as I am aware been satisfactorily explained, that in cases of cystocele and rectocele, so long as the cervix remains within the pelvis, there is no elongation of the uterine cavity, whereas so soon as the cervix is found to protrude through the orifice of the vagina there is found to be marked elongation. It is also interesting to note that the extent of the elongation varies between certain definite limits. The supra-vaginal cervix is usually described as being the part affected in this form of elongation, but in a case of prolapse where I removed the heavy and large uterus together with the diseased appendages, I found that although the cervix was relatively more lengthened, yet the body was also decidedly elongated.

The sequence of events in a case of cystocele with hypertrophic elongation of the cervix is first cystocele, the bladder being the agent that is used to thrust forward the anterior vaginal wall, as may be proved by observing that this vaginal wall is actually elongated. The tension is transmitted through the anterior vaginal wall to the anterior lip of the cervix, which becomes everted and may be elongated; the whole cervix is thus pulled downwards, but its descent is opposed by its transverse ligaments and by the utero-sacral folds. These structures gradually yield and the whole uterus then descends and drags with it the posterior vaginal wall from above downwards. In rectocele with hypertrophic elongation a similar series of events takes place in the inverse order.

The elongation in these cases specially affects the supravaginal cervix and is due in part to intermittent tension on the cervix by the pull of the vaginal wall opposed by the pull of the ligaments of the cervix above mentioned. The hypertrophy is further partly caused by interference with venous return due chiefly to traction on the connective tissue in which the vessels lie, partly also no doubt to the constriction of the protruded cervix by the encircling vulva. The thickness of the elongated cervix varies much in different cases; before the menopause it is as thick as two, three or more fingers; when senile atrophy has occurred, the cervix, though still elongated, is frequently found to be thinner than the little finger.

There remain now for consideration cases of total prolapse, by which is meant, complete prolapse of the uterus with or without complete prolapse of the vagina. This forms the end stage of all the varieties of prolapse, and a case belonging to any of the groups already described may become complete, if only the exciting causes act with sufficient force, or what comes to the same thing, if they act for a sufficient length of time. In my 260 cases are included only 12 of total prolapse. In some of these it was impossible for various reasons to discern the exact march of events, but in others it was easy to observe the reproduction in a few moments of the exact order of events that had taken months or years to develop. In different cases, the complete prolapse had supervened on eversion of the vagina, on retroversion of the uterus with inversion of the vagina, and on cystocele. As a rule, in these cases, the uterine body is found to be retroverted inside the sac of the prolapse, but in two of my series it was anteverted. The patients had usually worn pessaries for a long time, but one of them had never worn one. One of the patients had a flat pelvis, the diagonal conjugate measuring only 3¼ inches. Two-thirds of the patients were 45 years of age and upwards. The number of children was not large; only one patient had had more than ten children, while five out of the twelve had borne four or less; the average number, 5.4 in each patient, is decidedly less than the average in cases of prolapse generally. In two of the women there had been only one pregnancy; in one, aged 60, 30 years before the patient was seen; in the other, aged 68, the one child was born 40 years previously, the womb had been outside for 30 years, and the patient had worn a Zwanke pessary for 20 years. In contrast to these two instances where the total prolapse was the end stage of a long existing affection in old women, may be mentioned the case of a woman aged 34, who had borne only two children, and whose womb had been outside for four years.

The course of prolapse varies enormously in different cases according to the amount of damage that has been done to the supporting structures of the organs concerned, and more especially according to the social condition of the patient. The tendency of all established cases is for gradual increase to take place until the prolapse is complete. Where all the conditions are favourable total prolapse may be attained in a few months or a year or two; while in other circumstances this stage may only be reached after forty or more years, or it may never be reached at all. As we have seen prolapse is rarely total, and the immense majority of the cases become arrested in some one or other of the earlier stages.

Prolapse rarely kills, but it does its full share in adding to the sum of human inconvenience and suffering. Fortunately the means we now have at our disposal enable us very materially to reduce the pains and discomforts of this very common affection.

From the very earliest days there has been no lack of methods of treatment of the diseases we are considering. Thousands of years ago the patient who had the misfortune to, so to speak, "drop" her womb to the outside, was sometimes punished by being bound upon a shutter and turned upside down; she was in this position shaken until the errant organ returned to its proper resting place inside the body, and thereupon the unfortunate woman was made to lie in bed on her back with her knees crossed for the space of six weeks or thereabouts. A still more drastic and equally ineffectual method, that of cutting off what is mistaken for the offending member, is sometimes practised in our own days. We still seem very far from universal agreement as to the correct management of the affection. Such agreement must be sought by a careful and unbiassed study of every case, by comparing our observations and opinions one with another, and by thus endeavouring to gain a correct appreciation of the essential nature of the process; by pursuing such a course we shall be enabled to discover correct principles of treatment, and on these to base scientific methods.

The preventive treatment of prolapse is of the very highest importance, and depends upon the correct management of the patient during pregnancy and labour, and for two or three months afterwards. Special attention ought to be paid to the injuries and tears of the perineum, vagina, and cervix during labour, and prompt suturing should be done when necessary. The preventive treatment of prolapse is the same as that of puerperal retroversion, and has been described by me in a paper printed in the *Birmingham Medical Review* for January of this year (1900).

When we find that there is an early condition of prolapse, we have to bear in mind that the best time to treat it is at the very beginning, and we should impress upon the woman the importance of being careful and of persevering in the use of proper remedies. In the earliest stages the correct treatment of the affliction is as effectual as it is simple. The forces leading to extrusion of the contents must be combatted by abstention from heavy exertion, such as carrying a baby about; by the relief of any cough that may be present; and by attention to the easy and regular action of the bowels. The supports of the organs should be strengthened by gentle exercise, such as walking, in order to call the muscles of the pelvic floor into action; by astringent injections; and by glycerine tampons. Ergot or hydrastis continued for two or three months, has often appeared to me to be useful in addition to the above means. If at this stage a vulcanite Hodge's pessary can be retained, I do not think it does any harm, but its place can be better supplied by the use of glycerine tampons.

The treatment of prolapse is often supposed to be synonymous with the use of a ring pessary, an appliance which fills up a place in the gynæcological armamentarium that may be better supplied when it has been made empty. When a ring pessary is introduced into the vagina and happens for the time to keep the prolapsed parts out of sight, the patient, and sometimes the doctor, feels satisfied that all is now well. The pessary being made of india rubber is however not long as a rule in setting up a new affection proper to itself, and is apt to become a stinking abomination, which a self-respecting scavenger might with perfect propriety refuse to handle. The "ring vaginitis" thus set up not only offends the nostrils; it exerts an injurious influence on the nutrition of the surrounding tissues, the very parts that require to be strengthened if the prolapse is not to be allowed to become aggravated. Hence the prolapse, which naturally tends to increase, is made to do so more rapidly by the means that are employed in its treatment.

The next most common means employed in the treatment of prolapse is perhaps Zwanke's butterfly pessary, which has been proved to be one of the most dangerous foreign bodies that can be introduced into the vagina. It is true that this instrument sometimes cures the prolapse by setting up ulceration and sloughing followed by cicatrisation and contraction of the tissues of the pelvic floor; but this can hardly be considered a serious argument in its favour All the other forms, and their name is legion, of pessaries that are used for prolapse seem to me to be open to similar strong objections to those that have just been urged against the rubber ring and Zwanke's. I am, indeed strongly of opinion after careful and prolonged observation that the entire abolition of the pesssary treatment of prolapse would be a decided gain to suffering women.

The routine palliative local treatment that I have gradually been led to adopt in those established cases of prolapse that would ordinarily be deemed suitable for pessary treatment, in cases that is where the opening of the vagina is not too large to prevent the retention of a foreign body, consists in the use of glycerine tampons which the patient is carefully instructed how to make and introduce for herself every morning. This method, besides affording the necessary support, has two conspicuous advantages over the pessary treatment; in the first place it is cleanly, and in the second, it exerts on the tissues a bracing and tonic action which helps to prevent the further progress of the prolapse. It is necessary to warn the patients that at first the glycerine plugs may cause a considerable watery discharge, but this source of discomfort soon becomes much lessened. The beneficial effect may be enhanced in some cases by the addition to the tampons of some astringent, such as alum or sulphate of zinc.

In many cases of prolapse the treatment by tampons is all that is required locally. Where it fails the correct indication appears to me to be to support the pelvic floor on the outside, by a perineal pad, just as one supports any other hernia by a truss. The perineal pad consists of a hollow indiarubber bag of elongated oval shape, and is attached by leathern straps to a waistband. In women who are not cleanly the pad may in use become somewhat offensive to sight and smell, but it may at least be claimed that the dirt accumulates outside the body, and not inside, as is the case with vaginal pessaries.

When prolapse has become firmly established, and the means just described are ineffectual or cannot be borne, operative treatment is, in my opinion, clearly indicated; and here it may be observed that in the early stages of the affection a simple and slight operation will probably be sufficient, whereas if the case is allowed to drift on a long and complicated series of operations may be necessary. The operations that I have found useful in my own work comprise anterior colporrhaphy by the oval method; posterior colporrhaphy by the triangular denudation method; perineorrhaphy either by flap splitting or by denudation, according to the individual case; amputation of the cervix; and anterior fixation of the fundus of the uterus to the vesical peritoneum in child-bearing women, to the vagina in women past the menopause. I have once, eight years ago, done fixation by the abdominal method for prolapse, but although the result was satisfactory, I am of opinion that this method presents no advantages and several disadvantages when compared with the methods performed through the vagina. The operation of shortening the round ligaments, whatever its merits in cases of backward displacement, appears to me to deserve no place in the treatment of prolapse.

The main point in the operative treatment of prolapse appears to me to be the selection of the methods that are most suitable in each individual case; what is good in one variety of prolapse, may be of no value in another; we must make the punishment fit the crime. Commonly, in old cases, several operations are required, and there is no reason that I can see why these should be done at different sittings. If the patient is not strong enough to stand the necessary combination of operations, in all probability, no operation at all will be undertaken. The operations that I have found to be most appropriate in the different varieties of prolapse, are as follow:— In eversion of the lower end of both vaginal walls, anterior colporrhaphy and posterior colpo-perineorrhaphy. In elongation of the vaginal cervix with prolapse, amputation of the redundant portion of the cervix and vesico-fixation; in two such cases, one in my own practice and one from another hospital, vaginal fixation was first done and was followed by a prompt return of the prolapse, so that amputation of the cervix was afterwards required. In cystocele, perineorrhaphy, with sometimes in addition anterior colporrhaphy, is indicated; where there is elongation of the supra-vaginal cervix, amputation of the cervix is required along with these operations. In rectocele, perineorrhaphy is necessary, usually in association with posterior colporrhaphy. Cases of complete prolapse require to be treated on their merits; sometimes perineorrhaphy is sufficient to relieve the condition.

After every operation for prolapse the patient should wear a perineal pad for at least a year, just as she wears an abdominal belt to support the scar of an abdominal section. In the cases of dilatable pelvic floor the pad is the only treatment that offers a chance of relief. In one of my cases I extended the perineum well forward with much success as far as the healing of the operation wound was concerned, but without the slightest benefit to the patient's condition; and I have seen several failures from the same cause after operation by other surgeons.

By the proper adaptation of the operations I have enumerated to the needs of the individual case I believe the radical treatment of prolapse may be expected to be as successful as that of hernia elsewhere. But these operations will be less and less called for in proportion as the treatment of labour and the puerperium is carefully and skilfully attended to, and in proportion as the early stages of prolapse are looked for and treated on correct principles from the earliest possible moment.

SOME RELICS OF PAST MEDICINE AND SURGERY IN THIS PART OF THE COUNTRY.*

BY F. W. WILLMORE, PRESIDENT.

It is sometimes a relief to the medical mind in its limited moments of leisure to look far away from the hurry and onward stress of the medical science and progress of the present. We live so much in daily contact with medical periodical literature, with records of series of cases by specialists in our great towns, with statistics of one kind or another, with solemn meetings often as dry as dust, where specimens are shown and papers, some of value and others the reverse, are read, that it may not be unwise or undesirable at times to delve in the pages of a remote past (which, to my mind, is one of the most delightful of human pursuits), and wander among the pillars and pilasters of old medical art, some cast down never to rise again, and others erect with added ornament, the accretion of centuries, which still help to support the great modern super-structure. I propose to-night to recall a few local facts bearing upon this subject, to remind you of a few names, which ought not easily to pass into oblivion, those of men whose literary labours were and are of large value, whose courage and prowess in surgery were conspicuous, when anæsthesia was unknown, when the agony, both of anticipation and reality, was amenable only to opium and hemlock.

---

* Presidential Address to the Walsall Medical Society, February 21st, 1901.

It is inevitable and moreover most desirable that in this newly organised society we should have papers and discussions of mutual advantage and instruction to ourselves, but for once in a way, on this inaugural occasion, I venture to break over the traces, and dwell for a brief space in a half-forgotten past.

First, let us take a brief glance backward for a century or more, and endeavour to diagnose the medical position antecedent to that time. It is astonishing how little we actually know prior to the year 1800 of the state of medicine or surgery in general, and in this part of the country still less.

The College of Surgeons of England dates its orgin from 1461, when it appears as the Company of Barbers of London and the Company of Surgeons of London. In a list of officers of Heriot's Hospital, London, compiled shortly before this, is the entry, "One Chirurgeon Barber, who shall cut and poll the hair of all the scholars of the Hospital, and also look to the cure of all those within the Hospital who anyway shall stand in need of his art." The present Barber's pole, with bason and twisted spiral, symbolising the winding of a ribbon round the arm previous to blood-letting, is a striking reminder of the dual connection. Not until so recently as 1745 were the Surgeons of London separated from the Barbers of London and made a distinct corporation.

Equally curious was the association of the Apothecaries with the Grocers, these being really synonymous terms.

In 1543 an Act was passed which deals mainly with the ignorance and stupidity of the London surgeons, and which provided for the toleration and protection of the irregular practitioners, who afterwards acquired the distinctive name of apothecaries. Thomas Linacrè, Physician of Henry VIII., established in 1518 the College of Physicians, of which he was the first President. The direct object of this incorporation was "to check men who profess physic from avarice rather than in good faith, to the damage of credulous people."

At this early period all three of these companies seem to have been strictly limited to the City of London and a radius of seven miles round.

The Universities of Oxford and Cambridge provided practitioners in a sparse degree for the large towns throughout the country. In the rural districts medicine was the domain of the clergy—the rough and crude surgery of the day was the almost exclusive province of the barbers.

Let us pause for a moment, as a preface to my subject, to review some few local names which have survived the lapse of centuries :—

Dr. Richard Caldwell was a Staffordshire man, having been born at Leek. He was an M.D. of Oxford in 1555; a few years later he went up to London, passed the essential examination for the F.R.C.P., and was President of the College in 1570. He was the founder of the Lumleian Society, the author of several treatises on physic, and translated the table of surgery by Horatio Moro, of Florence. He died in 1585, and was buried at St. Benet's, near Paul's Wharf, London.

To the curious and ancient amongst us, the name of Sir John Floyer, of Hints, may not be unfamiliar. He was also a

Staffordshire physician of high repute, and practised in St. John's Street, Lichfield, about 1694. He was a Fellow of the Royal Society, and is mentioned in the *Tatler* as a writer on cold bathing. He it was that influenced the mother of the great Dr. Johnson to take her son to London to be touched by Queen Anne for the cure of the scrofula or King's evil, "which disfigured a countenance naturally well formed, and hurt his visual nerves so much that he did not see at all with one of his eyes." From the time of Edward the Confessor, "the touch" had devoutly been deemed a regal privilege, and in this instance it appears to have been a magic one, for we hear very little subsequent complaint of the disorder. Sir John was a voluminous writer, and was Physician to Charles II., and won for himself the honour of Knighthood by the eminence to which he rose in his profession. His principal medical works were Pharmakotasanos, or the Touchstone of Medicines, in two volumes; an enquiry into the right uses of the Hot, Cold, and Temperate Baths in England; a History of Cold Bathing; the Physician's Pulse Watch; a Treatise on the Asthma, and other medical and religious enquiries.

Another local name was that of Richard Wilkes, doctor of physic, who was born at Willenhall in 1690. In 1717 he was a Fellow of Cambridge, and subsequently practised as a Physician in Wolverhampton, and, being an M.A., was also curate of Stowe-by-Chartley. "He gave up the Church," in disgust at the manner in which preferment is usually bestowed, and commenced practice in Wolverhampton. He was Linacre Lecturer in 1718, and, in addition to other works, published an Historical Essay on the Dropsy. Dr. Wilkes was also a great antiquary, and left a large folio volume of 300 pages of original collections for the history of Staffordshire, which were much used by Shaw in his history of the county. This is now one of the treasures of the Salt Library at Stafford. He died of gout in the stomach in 1760, and lies buried at Bilston.

Another name still well remembered in medicine is that of Dr. Robert James, an M.D. of Cambridge, who practised in

Lichfield and Birmingham about 1730. He was the inventor of Dr. James' Fever Powder, a nostrum which was for a long time violently opposed by the Faculty, but which, as Pulv. Antimonialis, found a place in the London Pharmacopœia. After his death, in 1776, it brought in a noble fortune to his family. He was, when at Lichfield, a great friend of Dr. Samuel Johnson, to whom he taught a good deal of medicine. "My knowledge of physic," says the latter, "I learned from Dr. James, whom I helped in writing his Medicinal Dictionary." We are told that Dr. James was somewhat rough and unpolished in his manner, and not a little addicted to the pleasures of the bottle, a failing at that time said to be by no means uncommon amongst physicians. Dr. James was a very voluminous writer. In addition to his Dictionary, 3 vols. folio, he published volumes on Endemical Distempers, the Practice of Physic in 2 vols., on Canine Madness, The Dispensatory, a Dissertation upon Fevers, a Vindication of the Fever Powder, and a short treatise on the Disorders of Children.

The Darwins of Lichfield were another remarkable medical family. Erasmus Darwin settled as a physician in Nottingham, in 1756, but removed the same year to Lichfield, where he practised and wrote for nearly thirty years. He was a philosopher, physiologist and poet, as well as a physician, and amongst his writings on many subjects was one on the "Comparative View of the Theories and Practice of Drs. Cullen, Browh and Darwin."

His son, Charles, studied medicine in Edinburgh, and discovered a test "by which you may distinguish pus from mucous," for which he received a gold medal from the University. He died there from blood poisoning. The grandson of Erasmus, Charles Darwin, one of the greatest naturalists of modern times, can only be considered indirectly as a Staffordshire man, having been born at Shrewsbury.

Charles Darwin, son of Erasmus, died in 1778, an important date from a surgical point of view. The "father of scientific surgery," was almost at the zenith of his fame, and the science and art of surgery was just emerging from the hands of the "mechanics." At that time, the only local charitable institution nearer than Worcester, was the Stafford Infirmary, opened in 1772, and there appears at this period in the large town of Birmingham, only a small Infirmary connected with the Poor House. Of special surgery there seems to have been nothing, save only the wandering lithotomists or stone cutters as they were called. Stone in the bladder was then very prevalent, especially in the Midlands, and in Norfolk, which seem to have been special centres. The great collection of stones at Norwich is one of the sights of that ancient and interesting city. The foundation of the Infirmary at Stafford was succeeded by another great effort to establish a like institution in the great town of Birmingham, which then contained a population of about 35,000. After encountering great difficulties, not unmingled with much opposition, the General Hospital, "near" Birmingham (as it was then styled), was finally opened in 1779, fourteen years after the first meeting had been held on its behalf, and Dr. Ash and seven colleagues were appointed as the staff. These eight may, more or less, be looked upon as the originators or the Birmingham school of medicine and surgery.

Dr. Ash had a wide reputation in Birmingham and the surrounding counties, and a fine portrait of him, by Sir Joshua Reynolds, may be seen in the Art Gallery there, in his robes as a Doctor of Medicine of Oxford, and in the full wig of the time. He was not a great writer, but published a lengthy essay on the Waters of Spa and Aix-la-Chapelle, which were then rising into prominence. In 1787 he took up London practice, and in 1790 was the Harveian Orator. He died in London, in 1798.

Dr. Withering, who practised in Stafford and Birmingham, was one of the most eminent botanists of his time. He wrote a number of books, including one on The Vegetables which Grow in England; and to him we owe the introduction into medicine of Digitalis. He was the discoverer of the native carbonate of Barytes, which is called Witherite, and his name still lives in a genus of plants called Witheringia. There is a very good monument with a bust of him in the old Church at Edgbaston.

Dr. Edward Johnstone came of an old and remarkable medical stock, which for more than a century gave physicians to Worcestershire and Warwickshire, and perhaps no name is better known or remembered in Birmingham than that of the Johnstones.

Dr. Bree, another of the early physicians, wrote an excellent work on Asthma, to which ailment he was for a long time a martyr. He was particularly susceptible to hair-powder, and dreaded the approach of a powdered footman. He, however, obtained a high repute as a curer of asthma, and was commissioned to relieve the late Duke of Sussex—a circumstance which finally led to his taking up London practice.

Another remarkable physician to the Hospital was Dr. John Johnstone, who was a master in his profession, and also a celebrity in letters. He wrote the life of Dr. Parr, which is styled by Bishop Butler "a fearless, manly, and noble specimen of biography." He was the author of an essay on Mineral Poisons and Medical Jurisprudence. He was Harveian Orator in 1819, and was elected President of the Provincial Association of Physicians and Surgeons, at that time the most powerful associated body of medical men in the country.

Dr. Male in 1802 produced a treatise on Jaundice, and obtained a high repute in medical literature. He has been styled the father of medical jurisprudence in this country, having written the first complete English treatise upon the subject. At this time medical men appear to have been grossly ignorant in the matter, and their performance in the witness-box was stated to have been "a disgrace to the age." The famous trial of Captain Donnellan for the murder by poison of Sir Theodosius Boughton is a case in point. Dr. Male writes with shame that a medical man first declared the symptoms of the disease to have been produced by arsenic—a statement which he afterwards altered to laurel-water. The indictment was made out that death was caused by arsenic, but during the trial a conviction was sought and obtained on the hypothesis that it had been caused by laurel-water. No poison was found, and no absolute proof that any had been administered. In the present day such a conviction could not be obtained upon such loose evidence, and indeed would hardly be sought for. By a curious coincidence, the author of this learned book accidentally poisoned himself with monkshood.

I now turn for a few moments to the early surgeons of this institution and their surgical work.

Mr. Kennedy has won for himself an imperishable name as being the first to introduce the many-tailed bandage; "as honourable amongst its brother bandages as a many-tailed pacha among his inferior colleagues."

Dr. John Freer was a born surgeon and related to a whole family of surgeons, one of whom still practises in Stourbridge. Unfortunately he died at an early age, and, although an excellent surgeon, left no writings behind.

It is still a tradition in Birmingham that Mr. Tomlinson was one of the most expert operators of his time. The truth is that operative skill about the years 1780-1790, excepting in the metropolis, was at a discount almost everywhere. "There were good operators in Norwich, and one at least at Leeds, Manchester, and Liverpool, but it would seem that there were wide districts throughout England where no competent men could be found to undertake any serious major operation. Truly was surgery then at a discount.

We now come to Mr. George Freer, a brother of the John of whom I have just spoken. His great title to renown was an operation performed at the hospital on October 4th, 1806, which is still held as a white day in the history of that institution. The man, a Scotch smith, had a vast aneurism of the femoral artery. Consultations were held, but the other surgeons were averse to any operation. Arrangements were made to send him to London to Abernethy, then at the height of his fame, and who had once, and for the first time, tied the external iliac in a similar case, but without success. It had been done a second time in London, but again unsuccessfully, for the limb mortified. The tumour, it is said, "increased to an enormous size, and beat like the poor smith's own sledge hammer; raising the bed clothes with its frequent and strong pulsation." An operation seemed almost a hopeless experiment, but George Freer did it, and at the end of a few weeks the man was able to walk two or three miles. Freer wrote a book on the subject of Aneurism, which was illustrated in a remarkable manner by Mr. Joseph Hodgeson, his pupil, who was himself also destined to win a wide renown in connection with diseases of the vascular system. One of the engravings in this book depicts this particular patient, a fine sturdy man, with a big, apparently lobulated tumour, curving over Poupart's ligament, and extending midway down the thigh. The details of this operation, the first successful case of the kind, were conveyed to London, where they attracted universal attention to the hospital where it had been performed, and won for Freer the lasting friendship of Abernethy, the "Surgical King of Bartholomew's," as he was then called. Freer was also one of the earliest to recognise the value of compression in the treatment of aneurism. Curiously enough, he died from aneurism or thrombosis of that artery, the tying of which had given him so much fame, and he was long lamented as a surgical luminary.

Mr. Tomlinson, of whom I have already spoken, soon followed Freer in the operation of tying the external iliac. He applied only one ligature, and, of course, left the artery undivided. The case was completely successful, and in his own account of it he says, "I do not mean to arrogate any undue praise to myself . . . but to convince the world that our profession is advancing very rapidly, and that the capability of performing the most complex and difficult operations is not confined to the metropolis."

One other name can hardly be left out from the pioneers of Birmingham surgery, although his connection with the hospital was a little later in date, and that is Mr. Joseph Hodgeson. In 1811 he published an Essay on the Diseases of the Arteries and Veins, which gained the Jacksonian Prize, and the publication of which at once gave Mr. Hodgeson a great reputation both in this country and on the Continent, where it was translated into French by M. Breschet, one of the most illustrious members of the School of Paris. This volume, as well as those I have already mentioned, is now extremely rare, but they will always remain valuable as so many lasting landmarks on that memorable journey, which has elevated the modern medical science of to-day far above the helplessness and credulity of little more than a century ago. Amongst Hodgeson's patients was the great Sir Robert Peel, and he had the melancholy duty of attending the great statesman in conjunction with Sir Benjamin Brodie, when he met with his unfortunate and fatal accident. He afterwards became Examiner in Surgery at the University of London, President of the Medico Chirurgical Society, and a Member of the Council of the Royal College of Surgeons, honours no provincial surgeon had ever before received. He was also the founder of the Birmingham Eye Hospital, and was the first surgeon in this part of the country to undertake the operative surgery of that organ. This distinguished surgeon will always be honourably remembered as the inventor of the screw for the lithotrite, and also for being the first English surgeon to perform in Birmingham the operation of crushing for stone as it is now done.

Enough, I think, has now been said to show that the commencement of the nineteenth century was closely coincident with a great and progressive change, which came over the medical history of this neighbourhood, that this change emanated from the great town of Birmingham, where a hospital of 100 beds had just been opened; officered by men of ripe talent and experience, and that from this time a rapid development of medical and surgical knowledge took place. The pre-eminence of London as a surgical centre had been questioned, and the patient requiring a severe operation need no longer be sent on a tedious and toilsome journey, but might remain with better chances in his own town. During the first and second decades of the 19th century many hospitals and institutions were started—the North Staffordshire Infirmary in 1815, and the Birmingham Medical School in 1828. Wolverhampton Hospital was not opened until 1849, and our own Cottage Hospital in Walsall not until 1863.

Let us now revert for a few moments to the close of the eighteenth century, and attempt to answer the inevitable question which must suggest itself to most of you—viz., Was there at this time no surgery outside our big neighbour Birmingham? The reply is, Very little of which we have any trace of. Reflect, that around was no solitary institution; no records, not a paper, not one word. Moreover, in the absence of anæsthetics, patients (perhaps, with the exception of unavoidable amputations) were only impelled to the surgeon's knife by intolerable, unbearable pain; many sufferers preferred death. Take, for instance, our own little town (Borough and Foreign), with about 8,000 inhabitants, with three or four surgeons, and one midwife and no surgeon at all at Bloxwich, no single item of knowledge that I am aware of has survived; and yet operative surgery, even though rough and perchance rude, must have had some existence, but not until 1850 do we find any local recorded case. In 1849 Dr. Elkington, of Birmingham, published a case of ovariotomy in that town, and in the following year that operation was done on a woman at Caldmore by Mr. John Day, of Walsall, and published in the *Provincial Medical Journal*, the woman making an excellent recovery. This happened seven years before Spencer Wells appeared on the surgical scene as an ovariotomist

There was, however, at this time one class of specialist whom we must not ignore, and that was the itinerant lithotomist, of whom, perhaps, the most remarkable was the poor unpretending French Friar named Frère Jacques, who, with his experience of nearly 5,000 cases, won an European fame, never before equalled. Another distinguished lithotomist was Raw, a

Dutch surgeon, who is said to have perfected the methods of Jacques, and to have cured a larger proportion of cases than had ever before been known. He refused to impart his exact procedure to anyone, and died, carrying his secret with him to the grave. In England the great surgeon Cheselden tried hard to recover the track of Raw, but had the chagrin of seeing four out of his first ten cases expire. This would be about 1723, and, as shewing what an advance English Surgery had made since that time, I may quote the words of a Birmingham stone cutter, named Gutteridge, who, in a letter written in 1857, and addressed to the public generally, remarks, "I have operated upon one hundred persons, and have failed to cure only four." He says, somewhat self-assertively we may now think, "my operation consists of a due combination of incisions of parts, ascertained by extended experience to be capable of being safely severed, and of implements, with which the successive stages may be most surely and with least danger accomplished. I have, if I understand myself aright, eliminated order, simplicity, and precision out of a chaos of elements, discordant notions, and diverse practices that have long existed and which still prevail." He gives a record of 127 cases, mostly from Walsall and this immediate neighbourhood. These cases were all done at the patients' own homes, and in presence of the ordinary medical man.

One moment more, and I leave the subject of stone in the bladder. It was during the peripatetic career of Gutteridge, that a new method of lithotomy came into vogue, and was largely practised. This was the median operation, invented, and its details perfected by Mr. Allarton of West Bromwich, who published his large local experience in "Lithotomy simplified, or a new and successful method of operating for Stone in the Bladder." His strong advice, to have "the left index finger thoroughly greased," is in striking contrast to the aseptic methods of to day. But those words were written sixty years ago.

A few words in conclusion to this rather erratic paper. Do we ever really reflect on the unhappy plight both of operator and patient in those old pre-anæsthetic days, on the agonies of physical pain and the struggling, shrieking sufferer, held down by main force, and kept as steady as was possible for the surgeon. Now and again we get a ghastly glimpse of such a scene, occasionally even a living narration. Thus, over sixty years ago, a Walsall man suffered amputation of the thigh for accident. His mouth and face were covered with a blanket, and he was firmly held down, whilst the late Dr. Burton removed the injured limb. Evidently he suffered severely from shock, for the skin incisions were not felt, the cutting of the bone caused acute, but momentary pain. He did not notice the loss of the limb until two days afterwards

Contrast these sensations with the following:—At the battle of Talavera, in 1809, a Captain Boothby sustained a compound fracture of the leg from a cannon-shot. Two days later, after suffering great agony and a jolting journey of some miles, the surgeons and their instruments arrived, and he was placed on a table. "Mr. Miller," he says, "wished to place a handkerchief over my eyes, but I assured him that it was unnecessary. The tourniquet being adjusted, I saw that the knife was in Fitzpatrick's hand, and I averted my head. The details of the operation were, perhaps, more shocking to reflect upon than to experience. It is a common idea that the most painful part of an amputation lies in sundering the bone, but the only part of the process in which the pain comes up to the natural anticipation is the first incision round the limb, by which the skin is divided, the sensation of which is as if a prodigious weight were impelling the severing edge. The sawing the bone gives no uneasy sensation, or, if any, it is overpowered by others more violent." After enduring intense sufferings and the privations of a prisoner of that time, he ultimately recovered his health and his liberty. He was a brave Englishman, and who can say how far his heroic courage contributed to recovery under such trying circumstances?

One more illustration and I have done. At the storming of

Bergen in Holland, in 1814, a Walsall man named Thomas Jackson, a sergeant in the Coldstreams, was shot in the middle of the leg. He says, "I did not then suppose I had been hit by a ball, but thought it had been from the blow of a musket. However, the leg doubled under me and let me down." After enduring untold troubles, he got surgical attention two days afterwards. Before the operation he drank a pint of red wine, which wrought a wonderful effect, and as he says, 'raised up my spirits to an invincible courage.' 'Now gentlemen,' said I, 'go on, if you please.' The surgeon was preparing to blindfold me—'O, no,' I said, 'I shall sit still and see as well as the rest.' One of the surgeons sat on a stool to hold the leg steady, the second ripped up my trousers and took down the stocking low enough. The head surgeon, with a knife, much like that of a shoemaker's, took his place at my right hand (it being the right leg to be amputated), the tourniquet being placed painfully tight above the knee. He put his hand under the calf of the leg, and setting the edge of the knife on the shin bone, at one heavy, quick stroke, drew it round till it met the shin bone again. All eyes were fixed on me, but I was too high spirited then to give way. The blood, quickly following the knife, spread around and foamed like a beautiful red fan downwards, at the sight of which the Dutch lookers on screamed. Next, the surgeon with his hand forced up the flesh towards the knee to make way for the saw. When the saw was applied, I found it extremely painful, it was worn out, it stuck in the way, as a bad saw would when sawing a green stick. I said, 'O sir, have you not a better saw?' He said he was sorry he had not, as they were all worn out. The bone got through, the next thing to be done was still more painful, that of tying up the ligatures; then followed the drawing down of the flesh to cover the end of the bone and tightly strapped there with strips of sticking plaister, after this, strongly bandaged, and thus ended the operation which lasted about half an hour." After two years of torture and constant exfoliation of bone, this man's stump finally healed. He settled down in his native town of Walsall, and was living here in the year 1847.

I now bring these fragmentary remarks to a conclusion, only hoping that the few facts I have been able to adduce will illustrate that, as members of a noble profession, we have no reason to be ashamed of our connection with the Midlands; and also that during the century which has just closed upon us there has been a gigantic advancement in our art—so great that we can at present barely realise it.

REPORTS OF SOCIETIES.

BRITISH MEDICAL ASSOCIATION.

BIRMINGHAM AND MIDLAND COUNTIES BRANCH.

The Fifth Ordinary Meeting of the Session was held in the Medical Institute, Birmingham, on February 14th, 1901, the President, Dr. MILNER MOORE, being in the chair.

Fifty-five Members were present.

The Minutes of the previous Ordinary Meeting on Jan. 10, and Special Meeting on Jan. 24, were read, confirmed, and signed.

The following members of the Association were elected members of the Branch:—R. W. Briggs, M.D., Harborne; B. S. Browne, L.R.C.P., Alcester; E. W. Wace Carlier, M.D., Birmingham; J. Sandison Crabbe, L.R.C.P., Gravelly Hill; W. D. Fenton, M.D., Kineton; J. Fraser, M.B., Sutton Coldfield; J. Frew, M.B., Small Heath; E. P. Hasluck, L.R.C.P., Four Oaks; G. L. Hill, L.R.C.P., Acock's Green; J. Coole Kneale, L.R C.P., Sparkhill; E. J. P. Olive, M.D., Leamington; E. T. Power, M.R.C.S., Atherstone; Andrew Croll, M.D., Handsworth; W. Downing, L.R.C.P., Birmingham; A. E.

Hancock, L.R.C.P., Saltley; W. W. Heelas, L.R.C.P., Wolverhampton; Julian Hora, M.B., Selly Oak; T. E. Mitchell, M.B., Old Hill; James Rust, M.D., Birmingham; L. C. Edwards, M.B., Coventry; J. F. Harvey, L.R.C.P., Birmingham; G. Haslewood, M.B., Aston; G. H. Rutter, M.B., Moseley.

Acute Epiphysitis of Femur.—Mr. Gamgee showed a boy, aged nine years, who, in October, 1900, suffered from acute infective epiphysitis at the upper end of the femur. Before the joint was involved, the trochanter was exposed and the neck of the bone gouged into. The patient is now quite well with a perfectly moveable hip-joint.

The Treatment of Lead Poisoning by Electricity.—Dr. J. Auriol Armitage read a paper on this subject. Remarks were made by Dr. Malet, Mr. Deanesley, and Dr. Codd; and a communication was received from Dr. MacMunn, stating that he had not found lead in the deposit obtained from the brass rod of an electrical bath, in which patients suffering from plumbism had been treated by electricity. Dr. Armitage replied.

The Management of Labour complicated by Chronic Heart Disease.—Dr. W. A. Potts read a paper on this subject, which was discussed by Dr. Thomas Wilson and Mr. H. M. Morgan.

MIDLAND MEDICAL SOCIETY.

The Fourth Ordinary Meeting of the Society was held on Wednesday evening, January 30th, 1901, at the Medical Institute, the President, Mr. JORDAN LLOYD, in the chair.

Extra-dural Abscess.—Mr. Gamgee showed a girl, aged 12 years, who had in the beginning of November, 1900, suffered from very severe symptoms, indicating some intra-cranial mischief due to middle-ear disease. There had been suppurative otitis media present for two years. The only localising symptom was tenderness over the left mastoid. The left side was explored with a negative result. Five days afterwards, the right side was explored and one ounce of pus let out from between the bone and the dura over the right lobe of the cerebellum. The patient made a good recovery.

Parovarian Unilocular Cyst.—Dr. Thomas Wilson showed a parovarian unilocular cyst with twisted pedicle, and a retroverted myomatous uterus removed by abdominal hysterectomy.

Renal Calculi. — Mr. Haslam showed a renal calculus, weighing 489 grains, that he had removed from the right kidney of a man, aged 33, and one, weighing 1,289 grains, that he had removed, two months later, from the left kidney of the same patient. Symptoms had been present for eighteen years.

Myoma of Uterus. — Mr. J. Furneaux Jordan showed a specimen of myoma of the uterus (invading the broad ligament) with hydrosalpinx. The specimen consisted of the uterus, containing in its interior a submucous fibroid, and in its outer wall a small subperitoneal fibroid, and of a large myoma growing from the left side of the uterus, spread out on the top of which was a large pear-shaped hydrosalpinx. The operation performed was that of combined hysterectomy. On opening the abdomen, with the patient in the Trendelenberg position, the tumour in the broad ligament was shelled out from the broad ligament, the ovarian and uterine vessels tied outside the tumour, and then the right broad ligament was ligatured between the uterus and the appendages. In this way, the uterus, the myoma and the hydrosalpinx were removed, while the right appendages were left behind. The ligatures were cut short and a gauze drain was carried into the vagina. The patient was aged 39, married 22 years; two children, youngest aged 20. For the last two years had suffered from severe hæmorrhage, and for five months continuously the loss had never ceased. Latterly, there had been considerable pain. She was a very stout woman, was absolutely blanched from hæmorrhage, with a small feeble rapid pulse. Her recovery had not been perfect, as she had a stitch abscess. The operation was performed three weeks ago, and she was now well.

Dr. W. J. McCardie exhibited Breuer's inhaler for the administration of ethyl chloride.

Dr. Stacey Wilson read a paper on "Intestinal obstruction amenable to non-operative treatment."

The fifth Ordinary Meeting of the Society was held on Wednesday evening, February 13th, 1901, at the Medical Institute, the President, Mr. JORDAN LLOYD, in the chair.

Friedreich's Ataxia.—Dr. Kauffmann showed a man, aged 22, suffering from Friedreich's ataxia. The patient had ataxia on walking, of considerable, though but mild, degree, and showed Romberg's symptom very marked. There was also ataxia of the hands, fairly marked on writing. The knee-jerks and plantar reflexes were both absent. There were no sensory symptoms and at no time had the patient suffered from fulminant pains. Fine shaking of the head was present, particularly on an attempt to fix an object, and quick, shock-like nystagmus was marked when the eyes attempted to follow rapidly a moving point. This last sign had developed while the patient was under observation. There was no tremor of the hands, and at no time had the patient had any difficulty of micturition. The fundi oculorum were normal; the intelligence very good. Symptoms of this illness had first appeared five or six years ago, and commenced with severe, often intolerable, itching under the balls of the toes. Gradually unsteadiness in walking and standing had crept on, at first only noticeable to the patient himself, but within the last two or three years, perceptible to others, and compelling him six or eight months ago to give up work. He had been a sufferer from periodic headaches which he connected with his present illness. The *family history* was inconclusive, the patient having left home at the age of 11, and not having seen his people since then. Although he had led a varied and hard life, he bore no marks of syphilis, and strenuously denied ever having suffered from this disease, and showed no signs whatever of intemperance. As regards the diagnosis, the only other disease which might occur to one was insular sclerosis; but the rather early onset, and the total absence of the knee-jerks, coupled with the absence of tremor from the hands and arms were points against the diagnosis of insular sclerosis.

Wool Swab encysted in Peritoneal Cavity for seventeen months. Removal by Laparotomy.—Mr. F. Marsh showed this specimen, removed by him ten days previously from the peritoneal cavity of a man, æt. 51. In September, 1899, an exploratory operation had been performed in a hospital on account of symptoms pointing to gall-stones. "Adhesions" only were found. No relief was afforded, and after a few months the intermittent pains became constant, the vomiting more frequent, and the action of the bowels very irregular. He was admitted into the Queen's Hospital in October, 1900, but careful and repeated examinations failed to discover any definite cause of the symptoms. Subsequently he attended as a medical out-patient. A fortnight ago, a distinct swelling, hard and rounded, was noticed for the first time, presenting at the lower edge of the liver in the region of the gall bladder. He was therefore admitted for an exploratory operation, no definite diagnosis being made. On exposure the swelling resembled a thickened and distended gall bladder, adherent everywhere to coils of intestine and omentum. These adhesions were with difficulty broken down and the coils of intestine freed. An incision was made into the swelling, when a little odourless pus escaped from around a sebaceous looking mass, which further examination showed to be wool, about an ordinary handful. The cyst wall was removed in its entirety, No other lesion was found. The man made a good recovery and was now free from pain.

Pedunculated Subserous Fibroid with Twisted Pedicle.—Mr. Christopher Martin showed a large subserous myoma which had become strangulated from axial rotation on its pedicle. It was removed from a married woman, æt. 40. The tumour caused few symptoms till rotation occurred, when acute peritonitis set in. When the abdomen was opened, the tumour, which was about the size of a football, was found semi-gangrenous, of a greenish black colour, and universally adherent to small and large omentum. The pedicle attached to the fundus was three inches long and twisted three complete turns. After separating the adhesions the pedicle was ligatured and the growth removed. The rest of the uterus was studded with smaller myomata and was accordingly removed by the sub-peritoneal method.

The patient made a good recovery and returned home on the 17th day.

Ovarian Dermoid Cyst.—Mr. Jordan Lloyd showed a suppurating ovarian dermoid removed by abdominal section from a girl eighteen years of age, who was admitted to the Workhouse Infirmary with symptoms of puerperal fever coming on a few days after her first confinement. The tumour lay fixed in the left loin and had most of the characters of a renal enlargement.

Paper.—Dr. McCardie read a paper on the Choice of an Anæsthetic.

The Sixth Ordinary Meeting of the Society was held on Wednesday Evening, February 27th, 1901, at the Medical Institute, the President, Mr. Jordan Lloyd, in the chair.

Bilateral Thrombosis of Femoral Veins.—Mr. Gamgee showed a man, aged 32, who in October, 1900, suffered from acute pneumonia. During his illness, the right leg and afterwards the left became greatly swollen and œdematous. He now had œdema of both legs with very marked dilatation of the superficial epigastric and circumflex iliac veins on the right side, and of the superficial circumflex iliac on the left side, the left superficial epigastric being thrombosed. The condition was apparently due to double femoral thrombosis.

Dr. Russell also showed a man, aged 26, who had suffered from "blood-poisoning" in June, 1900. No definite information could be obtained respecting this attack, except that it was accompanied by pain and tenderness over the right femoral vein. Four weeks later, similar symptoms appeared on the opposite side. There was now a solid œdema of both legs, and dilatation of the superficial epigastric veins on both sides, most marked on the right. The right superficial circumflex iliac vein was also dilated.

Calcified Fibroma of the Ovary.—Mr. John W. Taylor showed a specimen of Calcified Fibroma of the Ovary, removed from a young married woman of 26 years of age. Mr. Taylor commented on the rarity of fibroid tumour of the ovary, and on the extreme rarity of one which had undergone such calcareous or (possibly) bony transformation. The specimen was as hard as stone, and undoubtedly caused occasional contusions of bowel on unguarded movements of the patient.

Paper.—Dr. A. Douglas Heath read a paper on Dermatitis from Common Irritants, and Dr. T. Sydney Short read notes on three cases of Gastralgia.

BRITISH ORTHOPÆDIC SOCIETY.

The Annual General Meeting was held at the City Orthopædic Hospital, Hatton Garden, E.C., on February 16th, Mr. NOBLE SMITH in the Chair.

From the Honorary Secretarie's and Treasurer's report, the Society is in a sound condition. The meetings during the year 1900 have been well attended, and of a most interesting and instructive nature. The three years' term of the Town Honorary Secretary (Mr. Muirhead Little), having expired, a hearty vote of thanks for his very valuable services was passed unanimously. Mr. Cusholm Williams, 20, Bedford Square, W.C., was elected to act with Dr. A. F. Blagg (Bristol), as the Honorary Secretaries.

The following members were elected to the Council:—Messrs. W. Armstrong, W. E. Bennett, Jackson Clarke, Percy Lewis, G. P. Newbolt, John Poland, H. H. Reeves, and Noble Smith. Mr. C. B. Keetley was re-elected Treasurer.

The Ordinary Meeting was then held. Mr. Muirhead Little showed a case of kyphosis with probably rheumatic complications. The patient, a young man, perambulator maker, was advised gymnastic exercises, and had a slight slip off a horizontal bar; and ever since then had had a grating noise like loud crepitations, whenever the right scapula was moved. The noise could be heard at a distance of several feet with the patient stripped. No pain and no impairment of strength or motion. Messrs. Noble Smith, Jackson Clarke and J. Ewens, commented on the case.

Mr. Muirhead Little also showed a case of injury to the upper epiphysis of the humerus in a boy, who had been shown before the society on a previous occasion. With a view of remedying the deformity, he had operated by dividing the humerus below the insertion of the deltoid, and rotating it out about 30 degrees. The hand and arm, which had been quite useless, could now be used fairly freely, and the patient could rotate his arm with more or less ease. Mr. Noble Smith remembered the case prior to operation, and he considered the result distinctly beneficial. Mr. Smith read notes of a case of separation of the epiphyseal head of the femur in a girl aged seventeen, who consulted him in 1885, the case being one of the very earliest ever recorded of this particular injury.

Mr. John Poland opened a discussion on "The Results of Injuries and Diseases of the Epiphyses, and their Treatment." Owing to the great scope of the subject and the lateness of the hour, Mr. Poland treated the subject as concisely as possible, and only in general terms so far as it affected the orthopaedic surgeon. The paper was fully illustrated with numerous photographs, skiagraphs, drawings, and specimens. The full text of the paper and discussion will appear in the next volume of the B. O. S. Transactions. Messrs. Jackson Clarke, Muirhead Little, J. Ewens, and Chisholm Williams, took part in the discussion.

REVIEWS.

◆

MANUEL D'HISTOLOGIE PATHOLOGIQUE.*

OVER thirty years ago, appeared the first edition of the Manual of Pathological Histology, by Cornil and Ranvier. Their work was destined to be a leading one, and it was not long before a second edition was called for. In 1881 it was published. It at once became a standard. No other work appeared on morbid histology but bore the impress of Cornil and Ranvier. It was translated, and spread far and wide. The careful character of the descriptions of diseased tissues and the great excellence of the illustrations strongly impressed succeeding generations of students of pathology. The whole work so fresh, so original, that it became a basis for all investigations dealing with morbid histology, and for many years—we may even say ever since—all works on pathological anatomy made copious reference to, and extensive quotations from, the great French work. But twenty years is a long time, particularly so in medicine, and, above all, in a branch of medicine which has grown beyond all anticipation. We had just reason, therefore, to hope for a third edition of "Cornil and Ranvier," and, in point of fact, it has been known for some three or more years that a new edition was in course of preparation. Perhaps it is a matter for congratulation that the work reappears now rather than ten years ago. It is the highest compliment that can be paid to the last edition—that of 1881—that it can still be studied with advantage. But it is no disrespect to say that, in view of the vast revolution which has taken place in pathology owing to the labours of Pasteur, Koch, and Lister, and after them a great host of workers, that so much more knowledge of morbid processes, so many different conceptions of the very bases of pathology, require that the standard works must themselves be altered out of very reference for their value.

---

* Manuel d'Histologie Pathologique. Par Cornil et Ranvier. Third Edition. 1901. Paris : Felix Alcan & Cie.

Such a position has now been attained by scientific medicine that we may well ask ourselves what more is to come, or can we mark that position by some worthy landmark. Perhaps we may, and no more fitting one could be found than the re-issue of a work which has been a pioneer in such a great field of research. No more striking evidence could be of the great advances in pathology than the new edition of this work, which now appears in four thick volumes. Nor is that all. The names of the original authors, both of whom are still with us, and also occupy places of high honour not only in the profession of medicine but in the State, again appear on the familiar title page; but associated with them are other names which have become well known, and are a guarantee of sound work. Brault, of the Lariboisière, is an author well known by his many and valuable contributions to medical literature. Letulle has achieved a wide reputation, as those who are acquainted with his great works on "Inflammation" and "Maladies du Cœur et des Vaisseaux" can testify. The fact that these are joint authors adds additional value to the work and increased renown to themselves.

The plan of the former editions was in every case to treat of the normal histology of an organ or tissue, and then to describe the abnormal. This system, an ideal one, has been followed out in the present. The work, therefore, opens with generalities in normal and pathological histology, the former by Ranvier and the latter by Cornil, as we should expect. Degeneration, Necrosis, Pigmentation, and all such subjects occupy the first sections of the work. M. Cornil himself also contributes the chapter on "Inflammation," which for clearness and erudition would itself be sufficient to make the reputation of an unknown work. Many illustrations are given of the morbid changes in tissues, and a considerable number of these are coloured, an improvement on former editions. The portion of the work which deals with tumour and tumour growth is from the pen of A. Brault, and covers nearly 350 pages, being in itself a monograph on the subject. It is more than an histological description; it is also a philosophical treatise on one of the most complex problems of Pathology. It is enriched by many illustrations, the colored ones being often of great delicacy. The next section is on Bacteria, and is contributed by Fernand Bezançon. Its title is "Elementary Notions." True it is not so long in proportion as some of the other sections, but it gives a very complete account of pyogenic and pathogenic organisms, dependent subjects, as the serum therapeusis suitable in different cases, and the characteristics of the lesions in many instances. In this section is included an account of Protozoa and Hæmatozoa and the higher animal parasites. The final portion of Vol I. begins the description of some special tissue lesions, and the first subject is Diseases of Bone and Cartilage and the Articulations, and is by Maurice Cazin—a writer of authority in this department. The last chapters are devoted to lesions of Connective tissues and Serous Surfaces, being written by M. Cornil. It includes subjects such as Œdema, Purulent Infiltration, morbid states of the various serous surfaces, and the subsequent changes in them And, lastly, tumour growth in connection with serous membranes. These are, in brief, the contents of a volume of 900 pages. Such a work as this speaks for itself. It calls for no apology. It is a standard work, and must have a leading place.

D. S.

THE PRACTICE OF MEDICINE.*

THERE are so many text-books of medicine, and that unless for some special merit, a work is unlikely to have more than a short existence. Dr. Tyson's Text-book of Medicine is not one likely to die early, and has already reached a second edition, the first having appeared about four years ago, and then was very favourably received. The second edition has, as may be expected, been considerably revised, especially in the sections dealing with Infectious Diseases and Diseases of the Nervous System, two departments which have, even in so short a time as four years, undergone considerable changes.

---

* The Practice of Medicine. By James Tyson, M.D. Second Edition. London: Rebman, Limited.

Being a "text-book" of medicine, the work does not, of course, aim at being exhaustive, but at the same time, the various articles are strikingly complete, and the author has essentially the gift of conveying a large amount of information in a very short space. The chapter on Diseases of the Heart is an instructive one, though we would like to see a more complete acount of Congenital Cardiac Disease, a subject which receives only a passing notice from the writer. Again, the subject of Addison's Disease is rather curtailed; there has been within recent years a great deal of research into the pathology of this extremely interesting disease, and although the author sums up in a paragraph the main results of these investigations, we cannot but feel that his book is worthy of a little more detail on this and some other subjects. On the other hand, Purpura, a subject which is often slurred over, is well treated, and from the writer's description, the student learns that purpura is not always a disease in itself, but rather an accompaniment of many morbid states such as nephritis, though the writer does not mention the occurrence of purpura in diseases of the liver when it may be extreme in degree. The most important portion of the book is that dealing with the Nervous System, of which the author has made an extensive study. This section, fully a third of the whole work, is well illustrated, and contains the results of some of the most recent investigations in neurology. Here and there a few statements occur which show a certain reluctance, conscious or otherwise, on the part of the author to discard some time-honoured notions. The chapter on Tabes Dorsalis is a very clear and complete one, though the writer speaks of "perforating ulcer of the foot" in a manner somewhat suggesting that perforating ulcer does not occur elsewhere, and that it is almost peculiar to tabes. On the whole, the book is one of very great excellence, and especially adapted for those who seek a good, sound, and practical knowledge of medicine. The mere specialist may find many of his favourite tenets omitted, and, perhaps, this is not to the detriment of the work. In concluding, we can say that those who carefully study Dr. Tyson's "Practice of Medicine" will be amply repaid by the extensive and scientific nature of its contents.

PRACTICAL GYNÆCOLOGY.*

The book before us is another of the portly volumes in blue bindings, with clear print and copious well-reproduced illustrations, which in the course of the last few years have been made familiar to us by our American brethren. The author is the Professor of Gynæcology in the Jefferson Medical School, and the work has been under consideration for the last fifteen years.

Textbooks on gynæcology may be divided into those which attempt to give a full account of what appears to the author to be the present standpoint of the subject, more particularly from the point of view of surgical operations; into those which set forth the individual experience of the writer; and into those which attempt to combine these two methods. The present work claims to belong to the third category, but the writer has hardly succeeded in stamping his own individuality upon the subject matter. The chief fault, indeed, that is to be found, not a common one in works from the other side of the Atlantic, is that the author has not sufficient *ego* in his *cosmos*.

The first portions of the book deal with diagnosis and the methods of examination, and here are found many old familiar friends among the illustrations, not all of them necessary, not a few unduly realistic and disgusting. The chapter on Anatomy recalls pleasantly to memory much well worn artistic work on that portion of the subject, notably many of Savage's excellent plates. Some attention is devoted in each section to pathology, but the statements and illustrations are not in every case reliable, and some have evidently not been tested by the author's own observations. For instance, Fig. 290 on p. 332, purports to represent a section from a dysmenorrhœal membrane; as a matter of fact it represents nothing that naturally belongs to the uterus, normal or diseased, and least of all is it like a section of a cast from a case of membranous dysmenorrhœa. Again, on p. 499, the statement is reproduced that tubal mole is formed by blood derived from the fœtal circulation accumulating in the space between the chorion and amnion. This statement has been made on the authority of well-known and expert gynæcologists, and has, no doubt, a modicum of truth in it. When, however, one sees a mole the size of a duck egg, or even larger, with a fœtus less than half an inch in length inside it, it is necessary to conceive, if one is to accept this theory, that the fœtus must have led an extremely active life to be able to manufacture all that blood. As a fact, collections of decidual cells, as well as chorionic villi, are found more or less scattered through such moles, and the mass always consists chiefly of maternal blood.

---

* Practical Gynæcology. A comprehensive textbook for Students and Physicians. By E. E. Montgomery, M.D. London : Rebman Limited, 1900.

There is the usual plethora of accounts of operations and modifications of operations, and perhaps rather more than the usual number of names of men applied to operations and proceedings of various kinds. Hegar's operation, Garrigue's modification, Dudley's operation, Martin's, Bischoff's, Le Fort's, Tait's, Edebohl's, Fritsch's, Emmet's, Simpson's, and Duke's are all mentioned and figured in the pages devoted to repair of the perineum. Lauenstein's suture, Hildebrandt's, Heppner's, Outerbridge's, Cleveland's, and Martin's sutures are all illustrated. Even the jawbreaking terminology derived from the Greek is preferable to this; as an instance of the Greek method the name of Dudley's operation for retroversion—desmopyknosis (p. 451)—may fairly be called a "daisy."

The book is well got up, and not unwieldy. It is full of information, which would have been all the better for a little predigestion and assimilation.

GYNÆCOLOGICAL OPERATIONS.*

To the making of books on Gynæcology there is no end. A justification for the appearance of some of them may be found in that either they contain new facts or theories worthy of consideration, or they present an accurate picture of the present position of the subject to which they are devoted. For others a plausible excuse is not easily to be perceived. To the latter category belongs the volume under consideration.

The author's experience of his professional brethren appears to have been, if not extensive, at least peculiar. In the preface is found a suggestion that the majority of the operations described in the book "are comparatively simple and do not require the assistance of four or five doctors, and two or three nurses." If the practice here insinuated were common the next sentence would be fully justified. "Such an array naturally alarms the patient and her friends; but they will think, when a slight operation has been performed on the cervix, perhaps removing a mucous polypus, and the patient has recovered, what a clever man so and so is, and what a serious and successful operation he has performed!" We have no grounds for believing that chicanery like this is practised to any appreciable extent in our honourable profession and we are tempted to rejoin—*honi soit qui mal y pense*

Fame appears in the author's opinion to be attainable by a policy of negation, but he evidently does not care to follow this policy too far. We once heard of a small boy in the North, who was sent to buy a herring, and who was asked which he wanted, a he or a she. His answer was, "a wee he, no verra he, but gey and tae." The introductory chapter in the book before us on the preparation of the patient may be tersely summed up in a similar way—" a little antiseptics, not much antiseptics, but pretty well too." It is reluctantly admitted, on page 20, that it is perhaps better to take antiseptic precautions before introducing a tent into the uterus, because "there is a possibility that septic mischief might be set up, and it is safer, and makes one happier, to take precautions in a hundred cases, perhaps unnecessarily, rather than run the risk of having to regret not having done so after the hundred and first." The sentence is somewhat obscure, but the sporting suggestion is interesting,

---

* Gynæcological Operations, exclusive of those interfering with the peritoneal cavity. By Skene Keith, M.B., F.R.C.S. Ed. Edinburgh and London: Young J. Pentland. 1900.

After dilatation of the uterus (p. 25), "the treatment is of the simplest. The patient is allowed to pass her water if the antiseptic plug has been passed completely into the vagina, and not half in and half out." Nothing is said as to what the unhappy woman is to be allowed to do in the latter case; presumably, she is to hold her water until the gauze is removed, which is (p. 29) "of course, done under the bedclothes."

In the treatment of urethrocele (p. 96), "it is quite unnecessary to try to disinfect the parts, as the contents of the urethrocele are putrid." Inasmuch as there are already putrefactive germs present, we need not hesitate to risk introducing into the new wound that has to be made, other and possibly much more dangerous varieties of germs.

The indications for the employment of the different operations are, as a rule, not touched upon, and where they are mentioned, they are discussed in a very perfunctory manner. There is nothing of any importance in the volume that is not as well or better given in many of the ordinary textbooks on Gynæcology, and it is difficult to imagine to what class of persons the book is likely to be of service. For the specialist it is superfluous, for those of less experience it is insufficient and may be misleading and dangerous, and it can hardly be intended for circulation among patients.

FLESH FOODS.*

This book is described as a practical handbook for medical men, analysts, inspectors, and others. It is, in fact, a most exhaustive treatise on the composition and pathology of all forms of flesh food, and must rank as the leading work in the English language upon this particular subject. For the ordinary practitioner there is, of course, much information which he does not need to possess, but for those who hold public health appointments it will prove a most valuable work of reference.

The first three chapters deal with the structure and composition of muscular fibre, the connective tissue and blood products contained in meat, and the characteristics which distinguish the various forms of flesh foods from one another. Two chapters then follow on the examination of flesh and fat respectively, and in these will be found a full and clear description of the methods by which the composition and soundness of these constituents may be estimated. Especial attention is given in separate chapters to the preservation of flesh and the composition and examination of preserved flesh products, and to the composition and analysis of sausages. Other chapters follow on the proteids of flesh, meat extracts and flesh peptones, the cooking of flesh and poisonous flesh, and separate consideration is then given to the animal parasites and the bacteriological examination of flesh. The final chapter describes the various methods for the extraction and separation of ptomaines.

The enumeration of the subjects dealt with will suffice to show the scope of the book, and we need scarcely add that the information conveyed is of a highly technical nature, the detailed criticism of which could only be undertaken by a skilled analyst. We can, however, warmly recommend Mr. Ainsworth Mitchell's treatise as a most thorough and valuable piece of work, one which should be in the library of everyone to whom a knowledge of the means of detecting disease and decomposition in meat and its derivatives is of importance.

---

* Flesh Foods, with Methods for their Chemical, Microscopical and Bacteriological Examination. By C. Ainsworth Mitchell, B.A. Oxon., F.I.C., F.C.S. London: Charles Griffin and Company, Limited. 1900.

UTERINE TUMOURS.*

This is an excellent monograph of 348 pages. It is well printed and freely illustrated, and is written in a clear and interesting style. The opening chapters are devoted to such anatomical and histological features of the healthy uterus as are necessary for the proper appreciation of the matter dealt with in the rest of the book.

The author goes deeply into the general and special conditions which influence the neoplastic tendencies of the uterus, and of especial interest are his remarks upon the way in which tumour formation is influenced by environment, diet, and general nutrition. His conclusions are the outcome of his own extensive personal observations, and also of an examination of the statistics of a large number of hospital clinics. At a time like the present, when the effect which these influences have upon the incidence of cancer in general is undergoing such thorough investigation, the author's remarks upon their influence upon cancer of the uterus are worthy of careful consideration. He differs from the statements met with in many text-books of gynæcology, that cancer of the uterus is most common amongst the anæmic, hard-working, ill-nourished women of the lower classes, and contends that the disease is relatively much more common amongst the well-nourished, healthy women of the middle classes, while it is rarest in communities where the general death-rate is highest, and the conditions of life least favourable.

---

* Uterine Tumours: Their Pathology and Treatment. By W. Roger Williams, F.R.C.S.

Of interest also are Dr. Williams' conclusions with regard to the influence of diet upon cancer etiology. Animal food predisposes to it, especially when excess of meat in the food is combined with deficient exercise. Excess of alcohol, on the other hand, appears to diminish the tendency to cancer, mainly, he believes, on account of its action in lowering the general nutrition. Syphilis, evidence of which is rarely present in women with cancer, appears to act in a similar way.

In short, anything which tends to lower the general vitality militates against cancer, while the disease is most apt to occur in those who have led regular, sober, industrious lives, disturbed neither by excesses nor deprivations.

The book also deals with the different methods of treating uterine tumours, and contains a description of the technique of some of the operations.

We congratulate both the author and the publishers upon this new work, and consider that it should meet with success.

ATLAS AND EPITOME OF SPECIAL PATHOLOGIC HISTOLOGY.*

MESSRS. W. B. SAUNDERS are publishing a series of Medical Hand Atlases which are certain to be of great value to the practitioner and student, not only from their intrinsic excellence, but also on account of their style and the care with which the plates are executed.

We have received the Hand Atlas of Special Pathologic Histology and can say without hesitation that it is one of the best books on the subject that we have seen. There is an epitome of the pathology and morbid anatomy of the subject treated, but it is not to be supposed that the term "epitome means a cut and dry short description. As a matter of fact, the text is full in the sense that the leading facts are stated, and so stated that the reader feels he has grasped the subject extensively, though he may not have covered a large amount of reading; this is the true art of putting things. Then each subject is accompanied by plates to which is attached a special descriptive paragraph with reference numbers. The arrangement of text, plates, and explanatory letterpress is such, that the reader has the whole before him at once and is not obliged to refer back or forward except in a few instances, where, to include all in the page would be at the expense of clearness. The plates are beautiful, all are carefully coloured, and so exact and accurate, that one can see the microscopic slide as it were before the mind's eye. We have only too often seen plates where but for the explanatory notes we have been at a loss to know what the issue was. In the present work, it is possible to follow the whole process represented into minute anatomical details. The plates have been evidently prepared without stint of labour or expense and the result will repay, as they are almost as perfect as it is possible to get representations of stained sections. The volume deals only with the organs of Circulation, Respiration, and Digestion, but we look forward with pleasure to seeing the portion dealing with the other systems. We can say that the book is one to be recommended most strongly as a clear, able and artistic production, and one which will be of the greatest service to the student. A good point we should not omit to mention is that the price places the work within the reach of all. Many such books, by their price, are only to be found in the reference library, and thus not so useful to the student, who requires an opportunity of using them in conjunction with his microscope.

---

* Atlas and Epitome of Special Pathologic Histology. By Dr. Hermann Durch. London: W. B. Saunders, 161, Strand.

NORMAL HISTOLOGY.*

THE majority of works on this subject bring the student face to face with a large number of facts which he is unable to correlate in his mind in any logical sequence, owing to their being put before him on too anatomical a basis. He fails to grasp that it is only by means of histology that one is enabled to explain many of the obscure workings of the animal body.

We are pleased to note that, while though entirely a work on histology, the author never loses sight of the fact that the structure of a part and its function are connected together. The facts that can be observed upon examination of the minute structure of a part are thus presented to the student, so as to enable him to interpret them in a scientific manner, and consider them primarily in association with the function of the part.

We would draw special attention to the sections on the nervous system and special senses. Their value is greatly enhanced by a series of diagrams, many of which are associated with the name of Ramen y Cajal, and we think that with their help the difficulties which beset the path of the student in the study of the anatomy of the nerve tracts will be greatly diminished. We must, however, call attention to the multiplication of terminology, a too frequent source of needless worry to the beginner.

The work is rendered complete in itself by having a special section devoted to the methods in use for making microscopical preparations. This is extremely clear and is to be specially commended, in that it does *not* contain any of those which require great experience and skill.

The work is well printed and the illustrations are excellent, and we welcome this, the second edition. We can confidently recommend it to the student and to the practitioner who desires a comparatively small work on the subject.

---

* Normal Histology. By Edward K. Dunham, Ph.B., M.D. Second Edition. Rebman, Limited.

TEXT-BOOK OF THE PRACTICE OF MEDICINE.*

We are not surprised to see a fourth edition of Dr. Anders' work on the Practice of Medicine. We predicted, in reviewing a former edition, that the book could not fail to take a high place among its competitors, and events have proved the correctness of our statement. The present edition has been carefully revised, especially the chapter on the digestive system. The bearing of bacteriology on medicine has so altered some of our conceptions of pathological processes, that many subjects require frequent editing. Dr. Anders has been careful to do so, and we may regard the accounts the author gives as accurate and up-to-date. The section of diseases of the nervous system has also been revised. We notice that some diseases, such as Myasthenia Gravis, do not receive any mention, but in view of the fact that this and some other subjects have not as yet received general recognition, it is perhaps as well not to give short descriptions which further research might tend to modify.

We can confidently say that this work is in every way to be commended for lucid description and sound information.

A MANUAL OF SURGICAL TREATMENT.†

This, the fourth part of Messrs. Cheyne and Burghard's book, is devoted to a description of the treatment of the Surgical Affections of the Joints and Spine. In the first seventy-five pages the subject of dislocations is dealt with, and this, of course, does not give scope for any great originality of treatment; but the section is clearly written, and the descriptions are good and ample. We may especially commend the accounts of the operations for old unrelieved dislocations. These operations are mentioned in all text-books on Surgery, but this is the first time we remember to have met with really detailed descriptions of them. On page 50 are two errors that require correction, viz., the statements that Bigelow's ligament is attached to the anterior superior iliac spine, and that the tendon of the obturator internus muscle passes out through the great sacro-sciatic foramen. The various Surgical diseases of Joints are most adequately described, and the treatment of them is discussed fairly and impartially. As regards the question of excision of the hip for tubercular disease, the authors hold the opinion that the operation should not be done before suppuration has occurred, since it is perfectly impossible to get rid of all tubercular disease from the hip so satisfactorily by early operation as in the more accessible joints: and because, even with a stiff hip, so long as the joint is in good position, the patient has a firmer and more useful limb than would have been the case had the joint been excised. We are glad to see that early operation is advocated in the treatment of tubercular deposits in the condyles of the femur, and we are convinced that, were this advice more often taken, tubercular disease of the knee joint would in many cases be prevented.

---

* Text-book of the Practice of Medicine. By James M. Anders, M D. Two vols. Fourth Edition. London: W. B. Saunders and Co.

† A Manual of Surgical Treatment. By W. Watson Cheyne, F.R.C.S., and F. F. Burghard, F.R.C.S. Part IV. London; Longmans, Green, and Co. 1900.

We are able to say that this volume is a worthy successor to the three that have already appeared.

A TEXT-BOOK ON PRACTICAL OBSTETRICS.*

THIS is the third edition of Dr. Egbert H. Grandin's Text-book on Obstetrics, and contains much additional matter, especially on the subject of pelvic anatomy and embryology.

The aim of the work has always been a practical one, and the present edition will certainly add to the already acknowledged favour of the book. The illustrations are in many cases of a high degree of excellence, but we think some are superfluous, and, as a matter of fact, could well be omitted. This defect, if defect it be, however, does not detract from the value of the work as a most excellent text-book.

---

* A Text-book on Practical Obstetrics. By Egbert H. Grandin, M.D. Philadelphia: F. A. Davis & Co.

Erratum.

"Treatment of Lead Poisoning," by Dr. J. Auriol Armitage, p. 69, lines 7 and 8, *omit* " in conjunction with Dr. McMunn."

New Books, etc., Received.

From Rebman Limited –

- A Manual of Modern Surgery. By JOHN B. ROBERTS, A.M., M.D.
- Normal Histology. By EDWARD R. DUNHAM, M.D. Second edition.
- Lectures on Nasal Obstruction. By A. MARMADUKE SHIELD, M.B., F.R.C.S.
- A Dictionary of Medicine. By ALEXANDER DUANE, M.D.
- A Text-book of Pharmacology and Therapeutics. By ARTHUR CUSHNEY, M.A., M.D. Second edition.
- Practice of Medicine. By JAMES TYSON, M.D. Second edition.
- Text-book of Histology. By STÖHR. Edited by Alfred Shafer, M.D.
- Examination for Life Insurance. By CHAS. LYMAN GREENE, M.D.

From H. K. Lewis, London—

- Diseases of the Nose and Throat. By G. DE HAVILAND HALL, M.D., and HERBERT TILLEY, M.D.

From W. B. Saunders, 161, Strand, London—

- A Text-book of Embryology. By JOHN C. HEISLER, M.D.
- A Text-book of Histology. By BÖHM and DAVIDOFF. Translated by Carl Huber, M.D.
- A Manual of Syphilis and Veneral Diseases. By J. N. HYDE, A.M., M.D. Second edition.
- A Text-book of the Diseases of Women. By HENRY GARRIGUES, A.M., M.D. Third edition.
- A Manual of the Diagnosis and Treatment of the Diseases of the Eye. By EDWARD JACKSON, A.M., M.D.

Modern Medicine. By **Frederick J. Kaltever, M.D.**

A Text-book of Practice of Medicine. By **James Anders, M.D., LL.D.** Fourth edition. Two vols.

A Text-book of Pathology. By ALFRED STENGEL, M.D. Third edition.

Modern Surgery. By JOHN CHALMERS DACOSTA, M.D. Third edition.

Saunders' Medical Hand Atlases, viz. :—

Gynecology. By OSKAR SCHAEFFER.

Special Pathologic Histology. By DR. HERMANN DURCH.

From Cassell and Company—

Oral Sepsis. By WILLIAM HUNTER, M.D.

From John Wright and Co., Bristol.

First Aid to the Injured and Sick. By J. WARWICK, M B., and AL. TUNSTALL, M.D.

The Medical Annual, 1901.

Sidmouth as a Health Resort. By A. MACINDOE, M.D.

From Fannin and Co., Dublin—

Transactions of the Royal Academy of Medicine in Ireland. Vol. xviii.

⁂ Authors can have reprints of articles at the following rates ;—

Not exceeding 8 pages	....	8/- per 100
„ 16 „	....	12/6 „

The re-arranging of the type is the principal cost in the production of these reprints, so that smaller numbers will be the same price. Larger numbers at a proportionate reduction.

The Subscription to the *Birmingham Medical Review* is 6s. per annum, post free.

NOTICE.—*All Communications, Exchanges, and Books for review, should be sent direct to the Printers and Publishers Messrs. Hall and English, 36, Union Street, Birmingham.*

THE
BIRMINGHAM MEDICAL REVIEW.
APRIL, 1901.

ORIGINAL COMMUNICATIONS.

THE DIAGNOSIS AND TREATMENT OF ACUTE GASTRALGIA,

WITH NOTES OF FOUR RECENT CASES.*

BY T. SYDNEY SHORT, M.D., M.R.C.P.,
VISITING PHYSICIAN TO THE INFIRMARY AND ASSISTANT PHYSICIAN
TO THE GENERAL HOSPITAL, BIRMINGHAM.

IN a paper treating of a condition such as gastralgia, or gastric neuralgia, in which the diagnosis is complicated, so many other conditions must perforce be considered that extraneous matter is liable to be admitted. In order, therefore, to avoid being discursive, I propose to relate briefly one case, refer to three others, and, using all as illustrations in discussing the diagnosis of this somewhat vaguely understood condition, conclude with a few remarks on its treatment.

The first case I would refer to is that of a man, aet. 37, of fine build and athletic history. He had been a runner and football player, and sound in health all his life. He complained of severe agonising pain in the pit of the stomach, coming on suddenly, and referred to an area just to the right of the middle line between the xyphoid cartilage and the umbilicus. At first it came on only occasionally, but latterly he had felt it at least once in every 24 hours. It might come on while he was at business, but more frequently it woke him up at night.

---

* A Paper read to the Midland Medical Society on February 27th, 1901,

The pain always started in the epigastrium, and gradually went through to the back, causing a severe aching between the shoulders. It usually lasted about an hour, the aching in the back remaining for some time afterwards. When the severe pain was present he felt utterly prostrate, with a sense of impending death. He had seen several medical men, and had had a London opinion. He told me that everyone he had seen had come to a prompt decision: some said that it was gallstones, others that it was only wind in the stomach. In between the attacks he was quite well, but he said that he had lost about twelve pounds in weight during the last year, probably, as he himself thought, from worry. Without going into details of the complete examination, I may say that I could find nothing obvious to account for the symptoms. The diagnosis seemed to be between gallstone colic, acute neuralgia of the stomach, and deep-seated aneurism. His active life, athletic appearance, and the absence of all signs of liver trouble seemed to negative any tendency to gallstones, especially as he did not vomit in these attacks. Moreover, considering that they were so numerous, jaundice might reasonably have been expected at some time. The fact that he must have strained his vessels severely at the athletic pastimes he had followed suggested diseased aortic walls; for the presence of an aneurism is not negatived by absence of evident signs. So far as I could gather, undue fatigue, either of mind or body, precipitated an attack, and he thought that after a large meal of any kind he was more likely to have one, but it did not always thus occur.

Taking all things into consideration, I came to the conclusion that I had to deal with a case of acute gastralgia, with probably at times distention of the stomach by wind. I therefore ordered him a blister over the epigastrium, and kept him on starvation diet for a week, lying down. By giving milk and barley water in small doses at intervals the stomach was thoroughly rested. I also ordered him a draught containing codeine and cocaine to be taken only when the pain was severe. At the end of the week the pain was much better, but had not entirely ceased. I then ordered him small doses of arsenic to be taken before meals, and passed a smart faradic current through him from the epigastrium to the back twice a week for three weeks. At the end of two months he reported himself as practically well.

The main points to be noted here are *(a)* the almost daily recurrence of the attacks, *(b)* the absence of signs pointing to organic disease of any organ, *(c)* the non-influence of food, and *(d)* the satisfactory nutritive condition of the body. As a rule in gastralgia the area of tenderness over the stomach is larger than it was in this case, where it was not larger than a half-crown. Pain from uncomplicated neuralgia is said to be rare between the shoulders, but there is no doubt that it does occur.

Though pressure gives relief in some instances, in the following case it aggravated the pain.

This man I saw at the hospital. He was tall, thin, and pasty-looking, a brassworker by trade, who complained of daily recurring severe pain in the epigastrium, just to the right of the middle line. At times the pain was so severe that he could not bear even the pressure of his clothes The pain did not shoot into the back, shoulders, or testicle. There had never been any jaundice or hæmaturia. At first sight his work in brass might appear to suggest the cause, but he had done none at all for six months, and had been steadily getting worse. His history pointed to his having suffered from chronic dyspepsia and constipation for some years. The attacks as he described them were very like gallstone colic, but he was not sick in any of them—a very important point in my opinion. He was tender all over the epigastrium, and jabbing him over the region of the gall bladder certainly gave him pain, but this occurred also on the other side. He himself said that he had gallstones, because he had been told by several doctors that that was what he was suffering from. He had been in one hospital, he said, to be operated on for them, but was discharged again. He was of a melancholy type, and suffered terribly from depression of spirits. In his case the pain was curiously periodic and came on nearly every day in the afternoon generally at about four o'clock. This patient was treated on the same lines as the first, and in about two months completely lost his pain. At Christmas time he had a drinking bout which set up an acute attack of gastritis, resulting in several severe recurrences of the pain, but after further treatment he was again relieved.

There is no doubt that many points in this case resembled hepatic colic. It is not common, however, to get the pain from gallstones recurring every day at about the same time The attacks are separated by intervals of at least several days, unless the attack itself extends over some days, and in that case the patient never gets quite free from the pain.

DIAGNOSIS.

The diagnostic problem presented by a case of pure neuralgia of the stomach, is one of the most difficult which can occur in the practice of medicine. The first step to be taken is to eliminate organic disease of the stomach. Here we must remember *ulcer*, *cancer*, and *dilatation* with or without *pyloric obstruction*. In ulcer and cancer the pain nearly always has some relation to food; in dilatation, however, the association is not always present. It will be unnecessary for me to go minutely into the diagnostic points between these conditions, but briefly it may be stated that in *ulcer* the pain is generally soon after food, is made worse by very hot or very cold ingesta, and that if vomiting be present it is not delayed: the act relieves the acute pain, which remains as an aching for a short time only. Pain on pressure is over a small area.

Although gastralgia does not depend upon organic disease, they may occur together. A case I saw recently seemed to point to the presence of ulcer and gastralgia concurrently. The patient was a woman between thirty and forty years of age, whom I saw with Dr. McCall. She had suffered from chronic dyspepsia for many years, and for two years had brought up a

THE TEST OF TIME AND EXPERIENCE.

THIRTY YEARS OF CONFIDENCE

on the part of the Profession have established, beyond all question that

SYR. HYPOPHOS. CO. FELLOWS

is the

REMEDY—PAR EXCELLENCE—

in Anæmia, Neurasthenia, Bronchitis, and Influenza, and during Convalescence from exhausting diseases.

It contains—Hypophosphites of Iron, Quinine, Strychnine, Lime, Manganese, and Potash.
Each fluid drachm contains the equivalent of 1-64th grain of pure Strychnine.

SPECIAL NOTE.—Fellows' Syrup of Hypophosphites is NEVER SOLD IN BULK, and is advertised only to the Medical Profession. Physicians are cautioned against worthless substitutes.

Medical Letters may be addressed to—

Mr. FELLOWS, 94, Paul Street, Finsbury, London, E.C.

LITERATURE OF VALUE WILL BE SENT ON APPLICATION.

Atonic Dyspepsia.

Infantile Diarrhœa.

Morning Sickness.

LACTOPEPTINE

is a combination of all the digestive agents and is superior to Pepsin alone; it gives tone to the stomach and re-establishes suspended function.

Dose: 10–15 grs.

FORMULA:

Sugar of Milk	**40 ounces.**
Pepsin (Pure)	**8 „**
Pancreatine (Pure)	**6 „**
Veg. Ptyalin or Diastase ...	**4 drachms.**
Lactic Acid	**5 fl. „**
Hydrochloric Acid	**5 fl. „**

PRESCRIBED

In all abnormal conditions of the Digestive Tract:
In indigestion, loss of appetite, Chronic Diarrhœa, impoverished blood, &c.

Marketed in 5-gr. Tablets and Powdered Form: In 1-oz., 4-oz., and 8-oz. bottles, prices respectively for dispensing purposes 3/5, 10/7, 20/10 post free.

JOHN MORGAN RICHARDS, 46, Holborn Viaduct, London.

little blood at somewhat long intervals. She had on several occasions suffered from severe agonising pain, which started from the pit of the stomach, passed through to the back, and was felt between the shoulders. She was quite familiar with the ordinary pain due to the ulcer, and herself differentiated this other pain as something quite separate and much more severe. It came on in the night and appeared to be quite independent of food. Points of especial interest in this case were the unusual mobility of each kidney and the presence of marked pulsation in the abdominal aorta. As her condition improved she completely lost the pain.

In *cancer* the pain comes on later after food; it is not so sharp, but lasts longer. It is only slightly relieved by vomiting, and may never really cease. The area of tenderness is often larger than in ulcer.

I should like to refer here to a case of extreme interest which occurred in my practice last year. The patient was an anæmic but otherwise healthy-looking man of 55. He worked in a warehouse, and had nothing to do with metal, lead or brass. He complained of severe attacks of pain in the epigastrium, similar to those already described in the other cases. He was a little tender over a small area to the *left* of the middle line over the stomach. This was the only objective sign that could be made out. I saw him from time to time during six months. He had seven attacks in all, so that he had an attack about every four weeks. In between he was quite well, and did his work as usual. He did not lose weight—in fact, he gained two pounds in the time.

Now comes the curious part of the history. For four months he had no pain at all ; then he was suddenly taken ill with vomiting, lasting over several days, and followed by severe pain and collapse, in which he died. I did not see him in this final attack, but his doctor sent word that the cause of death was syncope. He also said that he, too, had not found any evidence of cancer, but that he suspected it. It is quite possible that this may have been a case of cancer running an unusual course ;

but still it is most unlikely that with malignant disease of the stomach he should have been quite well and free from pain altogether between the attacks, and have four months' cessation of symptoms just before his death. Unfortunately, no autopsy was permitted, so that the diagnosis remains doubtful.

To return to the diagnosis of gastralgia: In *dilatation* pain may be altogether absent. If present, it may recur once or twice a week, be very severe, and be followed by a large vomit of food previously penned up in the stomach. Since dilatation frequently depends on cancer, the two conditions may be present at the same time.

Blood may be present in any of the three conditions mentioned above, and its appearance often clears up a doubtful diagnosis. But it is dangerous to wait until blood is voided to diagnose either ulcer or cancer, and it must be borne in mind that cases of perforated gastric ulcer are met with in which there have been no previous symptoms sufficient to cause the patient to apply for medical treatment in any form.

Very severe pain recurring in the pit of the stomach in a person past middle age should always rouse a suspicion of cancer.

If no organic disease in the stomach can he made out we must go further afield. Severe pain of the type we are now considering may be due to many other conditions, but those I would place first are *lead colic*, *gallstone colic*, *aneurism*, *angina* and *tabetic gastric crises.*

Lead Colic.—In private patients lead as the cause of colic may be easily overlooked, for two reasons: First, because it is so often forgotten; and, second, because the well-known blue line on the gums does not occur in people who prevent decaying food from remaining in contact with their gums. In lead colic attention must be directed to the obstinate constipation, the griping pains which occur in the bowels rather than in the epigastrium, by the relief afforded by pressure, and by the usually accompanying anæmia.

Gallstone Colic.—The diagnosis between this condition and neuralgia presents great difficulties. Of course, if jaundice is or has been present attention is directed to the liver at once; but to wait for jaundice when the symptoms point to gallstone colic is just as dilatory, if not as dangerous, as it is to wait for hæmatemesis to suspect gastric ulcer. The following points are important as indicating the probability of the presence of gallstones:—A fat, flabby, unathletic habit; periodic but not daily recurrencies of pain; longer continuance of the pain; symptoms of collapse and prostration, such as slow pulse, clammy sweats, and vomiting; and the shooting of the pain into either shoulder. If a rise of temperature accompanies the attack it is most suggestive of gallstones, especially if accompanied by a rigor or shivery feelings. Neuralgia uncomplicated by inflammation does not cause fever.

Aneurism.—In aneurism of the aorta or cœliac axis the pain is more persistent. It is rather an aching, more or less constant, with severe exacerbations of pain. It tends also to girdle the flanks, as well as to flash through the epigastrium. Rest, especially in the prone position, usually relieves, and all exertion aggravates it. Vomiting is generally absent. An army-training, a laborious occupation, a history of syphilis and accompanying evidences elsewhere of arterial degeneration, all point in the direction of aneurism.

Angina.—If we have to trust to a patient's account alone we may have some difficulty in determining whether the attack is due to gastralgia or angina pectoris. In true angina, however, the mere witnessing of an attack should remove all doubt. The iron grip of angina keeps a patient still, he is too ill to indulge in the restless worry of a neuralgic storm. The pain is more at the heart than in the epigastrium. The pulse is hard and slow, the face pallid and bluish, the features fixed, and the unfortunate sufferer sits with hands clenched and teeth set, so that he *looks* as well as feels as if his chest were held in a vice.

In discussing angina the association between aortic regurgitation and neuralgia of the stomach must not be overlooked.

Locomotor Ataxia.—When gastric crises occur in locomotor ataxy they often come on quite early in the history of the case. Should this happen before the other signs are well marked the attacks are extremely liable to be mistaken for gastralgia. The pain is generally intense, and the vomiting uncontrollable; the vomiting is usually more severe than in gastralgia. In a doubtful case then the knee-jerks and pupil-reflexes should always be examined. It is only natural that, in the absence of well-marked signs of tabes, such a crisis might be considered gastralgic, for the tabetic attack is really an irritation of the stomachic vagus similar to that which occurs in neuralgia.

There are many other conditions besides those already mentioned which must be passed in review in making a diagnosis of gastralgia. They must all be thought of, if only to be dismissed. Thus the following must all be considered:—*Acute belly-ache*, arising from the ingestion of unsuitable food or from food which for some reason or another is not suitable at that particular time. This will include ptomaine poisoning. Besides the *poisoning* which may occur from metallic substances absorbed during work, such as lead, brass, and copper, it must be remembered that we may be dealing with poisoning with criminal intent. That a poison administered in this way is apt to be overlooked at first our criminal records show only too clearly. The possibility is either forgotten or we are tardy in taking the unpleasant position of throwing suspicion on a third person.

I believe that acute symptoms are occasionally produced by the presence of *worms* in the alimentary canal. In a case I saw lately in consultation periodic attacks of vomiting, with severe collapse and rise of temperature, seemed to be due to the presence of several tapeworms in the bowels.

The pain of *renal calculus*, especially if the patient's account of it is all the evidence available, may easily be mistaken for any other kind of colic and must be borne in mind.

The attacks of pain due to the sudden *displacement of a movable kidney* may simulate closely neuralgia of the stomach; but here the pain, even if it passes into the back, commences originally in the side. The kidney during the attack is tender and can usually be felt enlarged. It does not at all follow, however, that even if a movable kidney be detected, a pain in the abdomen is due to it. I have come across many cases where the kidney was distinctly movable without the owner suffering any inconvenience on that account.

Other conditions which may cause error in diagnosis are *spinal caries* and *enteroptosis* or displacement of some of the abdominal viscera.

TREATMENT.

Gastralgia is essentially a condition in which it is the patient who should be treated and not the disease. The functional activity of the stomach is not at fault so that changes in diet as such, or helps to digestion in the way of pepsin, etc., are not of much use. A complete change with alteration of occupation and freedom from worry will often stop the attacks. If this is impossible, and in the very people who suffer from gastralgia it usually is, the best thing to do is to rest the stomach absolutely. This should be done by keeping him lying down and feeding either by the rectum, or if orally, by giving as little as possible. Two or three days' smart purging at the commencement has seemed to me to be especially valuable. For the attacks themselves morphia and cocaine may be given in a draught. Sharp counter-irritation over the stomach by blistering is often very useful, just as it is in other forms of neuralgia. In one of my cases the application of the faradic current to the pit of the stomach completely removed the pain in a few minutes, but it did not stop the recurrence of the attacks. The relief afforded by the interrupted current, increased in strength until actual pain is produced, in cases of sciatica is beyond question ; and I think similar relief may be anticipated in cases of neuralgia of the stomach so long as no inflammatory condition is present.

THE CLINICAL ASPECT OF DIPHTHERIA.*

BY F. R. GREENWOOD, M.D. (LOND.),
(LATE RESIDENT MEDICAL OFFICER AT THE CHILDREN'S HOSPITAL,
BIRMINGHAM, ETC.).

Mr. President and Gentlemen,

It is my intention in this paper to dwell on those points in Diphtheria which are of clinical importance or interest; points that have occurred to me whilst coming in contact with the disease whilst Resident Medical Officer at the Children's Hospital.

During my terms of office I had the opportunity of following out some sixty cases of diphtheria, and it is from these cases that I shall form the basis of my remarks, and I would here thank the Honorary Physicians of the Hospital for allowing me to make use of the case papers.

Most commonly, the disease starts either in the naso-pharyngeal regions or the larynx. The disease may set in quite suddenly with vomiting and sore throat, suggesting scarlatina, but it is far more common to have three or four days to a week of prodromata, the most marked feature of which is great lassitude.

FAUCIAL DIPHTHERIA.

It is doubtful whether, in cases where there is membrane on the tonsils or palate, the nasal cavities escape entirely. The majority of these faucial cases possess a nasal discharge offensive in nature, which is a very important aid in diagnosis.

A striking feature about these cases is the absence of any marked soreness of the throat. The painful stage is transitory, occurring during the early hyperæmia of the fauces, and when once the membrane is formed there is no complaint on swallowing. This is only what we should expect when we remember that in the necrosis of the superficial structures the sensory nerve endings are destroyed, just as they are in the necrosed layer after the application of strong carbolic to a mucous surface. In septic throats, on the other hand, the membrane-like exudation is superficial only and therefore very painful. In the majority of cases there is only a short febrile stage of 36 to 48 hours.

---

* Read before the Medical Society of the Birmingham University, on March 6th, 1901.

A maintained temperature denotes a secondary infection of a septicæmic nature. Of the 60 cases two were admitted with a temperature of 103°, which became normal in thirty-six hours. Three were admitted with a temperature of 102°. The temperature of the remaining cases was 101° and under, the average being 100°, but it may be even sub-normal. The cause of this low temperature has been ascribed to the early and marked degenerative changes in the heart, but it is more likely due to the specific action of the poison on the heat centre, since some of the most malignant cases show a temperature as low as 96° before any serious cardiac trouble has supervened.

Affection of Lymphatics.—All cases have more or less enlargement of the glands at the angle of the jaw, but in the majority of cases these clear up in a few days. In hospital practice the child has generally been ill two or three days before it is seen, and the glands have had time to clear up. At any rate, only 20 per cent. showed any marked enlargement of the glands or swelling of the connective tissue of the neck on admission, and of these 60 per cent. had a very marked nasal discharge. The glandular swelling may precede any throat manifestation, and in these cases possibly the focus of disease is out of view, originating behind the soft palate, and thence spreading to the tonsils; in other words, it is the absorption through the nasal mucous membrane that is apt to cause much enlargement of the glands.

The muco-purulent secretion from the nose in these cases is extremely irritating, as shown by the great tendency to excoriation of the upper lip, to an extent that is seldom seen in any other form of rhinitis.

Marked enlargement points to a severe case, but not necessarily malignant. The swelling may extend in an annular form, and suggests the presence of mumps, and may be accompanied by serious obstruction to breathing. Suppuration is rare, and I have only seen one case.

Albuminuria.—The question of albuminuria is still mentioned in text books as of considerable importance as an aid to diagnosis of diphtheria. Fifty-six per cent. of the cases had albuminuria, but I noticed that during the early summer months nearly all the cases remained free from albumin, and subsequently it was just the reverse. As there was no difference in the type of the disease, climatic conditions must have accounted for the difference of number affected. This we know to be the case in scarlet fever. The urine invariably clears up entirely; only one patient was discharged with any albuminuria, and that one had but a haze of albumin. The condition usually lasts for three to six weeks. The amount varies from time to time from a trace to a dense cloud, the actual amount seldom getting over ·15 per cent. In no case did I detect blood. Much albumin renders the type of disease severe, and is always accompanied by marked cardiac trouble. The cases with much nasal discharge are apt to be followed by albuminuria, but there may be as much albuminuria in a laryngeal case as in a nasopharyngeal. In malignant cases there may be an entire suppresion of urine. I have never seen any œdema.

Hæmorrhagic Cases.—The occurrence of hæmorrhage from mucous membrane in acute specific disease points to serious changes in the blood, and, in the case of diphtheria, this symptom was regarded as a very fatal sign. The change in the nature of the blood is very manifest on *post-mortem* examination. The tendency to coagulation is greatly reduced, and the colour is more of a chocolate tint. The nature of this change is not understood, but it is probably due to the action of the specific poison on the hæmoglobin of the red corpuscles together with the presence of an increased leucocytosis. Epistaxis is a

Why SCOTT'S is the Best Emulsion.

Because it contains the largest percentage of cod-liver oil.

Because the oil is the best medicinal Norway oil.

Because the oil is in the most perfectly emulsified form.

Because glycerine is combined with the oil.

Because sugar is not used to sweeten it.

Because the hypophosphites of lime and soda add greatly to its medicinal value, and

Because Scott's Emulsion is not only the most palatable of all forms of cod-liver oil, but it can be absolutely relied upon.

Scott's Emulsion retains its form and sweetness indefinitely. It does not grow rancid, and it is tolerated by patients continuously.

The best test of Scott's Emulsion is the practical test. Patients like it, and it does them the most good.

SCOTT & BOWNE, Ltd., Manufacturing Chemists, London, E.C.

The Natural Mineral Waters of

VICHY

(STATE SPRINGS.)

CÉLESTINS. For Diseases of the Kidneys, Gravel, Gout, Rheumatism, Diabetes, etc.

GRANDE-GRILLE. For Diseases of the Liver and Biliary Organs, etc.

HÔPITAL. For Stomach Complaints.

VICHY-ÉTAT PASTILLES.
2 or 3 Pastilles after each meal facilitate digestion.

VICHY-ÉTAT COMPRIMÉS.
For instantaneously producing an effervescing alkaline water.

Samples and Pamphlets free to Members of the Medical Profession on application.

CAUTION.—Each Bottle from the State Springs bears a neck label with the words "VICHY-ÉTAT" and the name of the

SOLE AGENTS—

INGRAM & ROYLE, Ltd.,
EAST PAUL'S WHARF,
26, UPPER THAMES ST., LONDON, E.C.
And at LIVERPOOL and Bath Bridge, BRISTOL.

common symptom, but does not signify much. It is certainly a symptom to remember in diagnosis. Occasionally the bleeding is very severe and sufficient to lead to marked blanching. The worst case that has come under my notice had bleeding from the nose and from the pharnyx for ten days after admission; the patient died. Hæmaturia is rare. One case had hæmatemesis and recovered. Petechiæ are not uncommon.

Failure of the Heart.—Cardiac debility is undoubtedly the most important and serious of all the symptoms of diphtheria. The child may be in a perilous condition for days or even weeks with a small, feeble pulse, almost imperceptible at the wrist, and accompanied by pallor of the face. An intermittent and irregular pulse is the first sign of approaching trouble. These signs are soon followed by a feeble and diffuse cardiac impulse, a feeble first sound, and an accentuated pulmonary second. The aortic second sound may be accentuated probably from the constriction of the splanchnic vessels as a result of the irritation of the vasomotor centre by the toxines.

This cardiac failure is the expression of a dilated left ventricle, the result of a degeneration of its walls, and not the result of a neuritis of the vagus. Dr. Sydney Martin has found marked degeneration of the cardiac muscle in the absence of any signs of degeneration in the nerve endings. Dr. Mott only found slight vagus changes in one out of four cases of paralysis. The early intermittent pulse is the result of a want of co-ordination in action between the auricle and ventricle, the latter failing to respond accurately to the stimulus of a relatively stronger auricle. As pointed out in a recent paper by Dr. Lees, of Great Ormond Street Hospital, the only real guide to the amount of dilatation is an accurate percussion of the limits of the left ventricle. Normally the left border of the ventricle lies internal to the nipple line, or, even if in the nipple line, no danger need be feared. On the other hand, a finger's breadth external to the nipple denotes serious danger, whilst two finger's breadth indicates an urgent risk of an early fatal termination. A similar acute dilatation may be seen more frequently in children in cases of rheumatism, but there does not appear to be the same dangerous consequences as in diphtheria. Percussion is the only means of estimating the true amount of dilatation. The position of the apex is no real guide, owing to the latter being so diffuse and feeble. In chronic valvular disease, where there is more or less hypertrophy with dilatation, the apex becomes a more valuable guide apart from the percussion. An acute dilatation is invariably accompanied by vomiting, and hence, the latter symptom becomes a sign of bad prognostic omen.

The rapidly falling pulse tension is also apt to be accompanied by albuminuria, and, if occurring late, there may be paralysis of the soft palate. The pulse is very frequent or just the reverse. The pallor becomes much more marked, the patient is sluggish and refuses to take food. It must be remembered that a slight affection of the throat may be accompanied by serious cardiac manifestations.

Vomiting.—From what I have been saying, you can see that vomiting may be a symptom of grave omen, pointing to cardiac dilatation. Vomiting may, however, arise from other causes, he chief of which as a symptom of uræmia, perhaps accompanied by slight convulsions which are not altogether rare. Three cases taken from the series were regarded in this light, and although their convalescence was very tedious, they ultimately got quite well. In rare cases, vomiting may be due to diphtheria of the stomach, but I have not seen a case. The vomiting occurring early in the onset is toxic and bears no peculiarity to diphtheria.

Paralysis.—Paralysis, as noted in the case papers, occurred in 40 per cent. of the cases, but in minor and transitory forms it probably occurs oftener than this. Frequently an intelligent nurse will note some nasal twang in the voice at some period, which the medical attendant is unable to verify at the time of his visit. The earliest onset occurred on the fifth day after admission (the eighth day of illness), the latest was in the fifth week. The average date of onset is the third or fourth week, a period of convalescence often intervening. Any form of diphtheria may be followed by paralysis, but cases with nasal affection are the most prone. The severity of the throat lesion is no criterion, and well marked paralysis may occur with practically no throat symptoms, in fact, the paralysis may be the first symptom to denote the true nature of the disease. Paralysis of the soft palate is usually the first sign, manifested by a nasal twang to the speech and regurgitation of liquids through the nose, solids being more easily swallowed. The reflex irritability or sensation may be lost independently. Two cases had strabismus. In not more than two cases did the patients complain of their vision. I cannot say definitely in what percentage of cases paralysis of accommodation occurs, but, whilst working in the Ophthalmic Department of the Queen's Hospital, I was certainly led to believe that it was by no means uncommon. It is probably of late onset and slow to clear up. Only one case suffered from extensive peripheral neuritis, and in this case there was marked paralysis of the diaphragm. Twenty per cent. of the cases showed loss of knee-jerk, but anything like paresis of the legs must be rare. On the average, a child is well enough to get about in six weeks, and the only thing that patients complained of was that one or two had vague pains about their joints, but the knee-jerks had returned.

Diagnosis.—The diagnosis after all, from the clinical point of view, is the most important and at times the most difficult problem connected with this disease. A throat that looks membranous is not necessarily diphtheritic. The text-book description that the affection of one tonsil alone, or the spread of a patch on to the soft palate, is diphtheritic, is at times misleading.

(1) *Streptococcal or Staphylococcal Infection.*—The commonest throat condition for diagnosis is one affected by the streptococcus or staphyloccus. The clinical differentiation here is most important. In a septic throat the patient has a sudden onset suggestive of scarlet fever; the temperature usually

rises quickly, reaching a maximum in about thirty-six hours, and pain is a prominent symptom. In diphtheria the onset is more gradual, the temperature, if it rises at all, is only a transient rise and keeps rarely above 100°, and it may be subnormal; pain in the throat is insignificant.

(2) *Escharotics* may produce a pseudo-membrane resembling diphtheria. A few weeks ago a lady, who twelve months previously had suffered from diphtheria, complained to me about her throat. There was some soreness, and on looking into the glass she had noticed a white patch on the upper part of her uvula, causing her considerable alarm. The throat was injected and the patch referred to was distinctly white with a red margin and about the size of half one's finger nail. The patient was " feverish " and felt far from well. At first sight it could easily be taken for a diphtheritic deposit, and I arranged to take a swab the following morning. The next day, however, the place looked exactly the same, and this aroused my suspicions. On going into details it turned out that she had been to the dentist the previous day, when carbolic had been used, and a drop must have fallen on to the soft palate. As a coincidence the patient was starting with a nasal catarrh at the same time. I have heard of the application of silver nitrate to the throat giving rise to similar cause of alarm.

(3) *Fungus Growth.*—I have seen a case of a fungus growth in the throat mistaken for diphtheria and admitted into the Queen's Hospital as such. An interesting point about this case was that the patient was suffering from diabetes; a microscopic examination revealed the true nature of the growth. In infants a growth of the öidium albicans looks at times exactly like an extensive deposit of membrane.

(4) *Syphilis.*—A girl, aged 12 years, was admitted into the Children's Hospital, under Dr. Powell, with a curious white deposit on the left tonsil, with swelling of the latter. There was a hyperæmic area around the patch, but the fauces generally were only slightly hyperæmic. The glands on the left side of the neck were enlarged, and there was a slight offensive nasal

discharge. The case was regarded as most probably diptheritic, but a bacterial examination gave a negative result after several trials. Three or four days after the child developed a rash, covering the body, especially thick on the forehead, which subsequently became impetiginous. The case was clearly one of syphilis. The throat remained much the same for about a month, and then the whole condition suddenly cleared up. The "infallible" test in the diagnosis of diphtheria rests in the detection of Loeffleur's bacillus; but, like all infallible signs in medicine, there is even a weak spot here. If the Loeffleur's bacillus is found in any quantity there can be no mistake, but where there are only a few, and these perhaps doubtful ones, the patient's clinical behaviour is of more value. I believe the majority of the doubtful cases which yield what might be called "weak" bacteriological results are really cases of ordinary follicular tonsillitis. But, on the other hand, in membranes that have existed for some days Loeffleur's bacillus may be plentiful in the deeper layers, whilst the superficial areas swarm with streptococci; and it is easy to see that in such cases a swab would yield an entirely wrong impression. But I cannot enter any deeper into this important and interesting point, but must pass on to speak of the second group of cases where the disease has affected the larynx.

LARYNGEAL DIPHTHERIA.

The spread of membrane to the larynx was probably at one time a very common sequence of affairs, but in the present antitoxin age creeping of the membrane, or secondary involvement of the larynx, has been reduced to a minimum, and in an ordinary faucial attack, treated early, there is practically no risk of serious extension. At the Children's Hospital I never saw a secondary membranous laryngitis after the administration of antitoxin. The involvement of the larynx is always sudden and comes as a new attack. There is no need for me to go into details of the symptoms of this form of laryngitis; they are those of obstruction to the passage of air into the lungs, together with the constitutional asthenia seen in the previous form.

Diagnosis.—The diagnosis from non-membranous laryngitis is at times absolutely impossible. If the child coughs up membrane we see the nature at once, but it is extremely rare for a child to do this. In some cases Loeffleur's bacillus can be detected in the fauces, even in the absence of any deposit in the tonsillar region. As a rule one has to rely on the clinical signs. The points suggesting diphtheria are—

(1) History of exposure to infection.

(2) Coughing up of membrane. I take it all membrane from the larynx is now regarded as diphtheritic. One reads of non-diphtheritic membranous croup, but no one, in my experience, seems to have definitely come across it. The membranous nature of the laryngitis is generally proved after tracheotomy as the membrance escapes through the wound.

(3) If the dyspnœa takes a day or two to become urgent and becomes progressively worse without any abatement, the case is probably diphtheritic. An urgent dyspnœa from catarrhal or traumatic laryngitis is usually suddenly produced.

(4) A marked asthenic condition of the patient, apart from the "ashy" stage subsequent to severe obstruction, points to diphtheria.

(5) The larynx of a patient over 16 years of age does not become obstructed to such an alarming extent from inflammatory swelling apart from a deposit of membrane. Hence, urgent dyspnœa requiring tracheotomy in a patient over 16 years, is almost certain to be diphtheritic, (of course growth, etc., are excluded).

(6) In diphtheria the temperature is seldom above 100°, it may be sub-normal.

NASAL DIPHTHERIA.

In speaking of faucial diphtheria I have introduced the subject of the affection of the nasal cavities. The latter, however, may be affected alone without any signs of membrane in the throat. Such cases are usually of a malignant nature. The lymphatic and blood supply of the fossæ is very rich and there is a correspondingly greater absorption of the toxins. The glandular enlargement is usually considerable, epistaxis is frequent and precedes or accompanies a profuse and offensive discharge. Dr. Osler speaks of a curious form of nasal diphtheria in which we find a very thick membrane with little constitutional disturbance and slight infective properties. I have seen no such case.

ANOMALOUS DIPHTHERIA.

Besides the forms described diphtheria may occur in anomalous forms. Thus it may attack open wounds, the conjuctiva, vulva, stomach, etc., all of which are accompanied by similar constitutional effects.

Complication.—In speaking of faucial diphtheria I dealt with symptoms such as renal trouble, paralysis, etc., as symptoms of the disease itself, in as much I believe them to be due to the toxins of Loeffleur's bacillus. There are complications, however, much less common, and most probably due to secondary infections. There has been much discussion on this point as to whether the constitution effects are due to Loeffleur's bacillus or to other baccilli, chief of which is the streptococcus. Dr. S. Martin has definitely shown that Loeffleur's bacilli, or their poisonous albumoses, have been found in the blood and spleen of patients dying from diphtheria. Further, the behaviour of diphtheria under antitoxin treatment, to my mind, points strongly to the toxins of Loeffleur's bacillus as the cause of the common accompanying symptoms. It is said that paralysis may follow any sore throat. It must be admitted that such cases of paralysis are rare and that after all probably the diphtheria bacillus in these cases is really present. When the streptococcus does account for the constitutional symptoms the patient usually dies of septicaemia in a very malignant form. The first real complication I would mention is the suppuration of glands. As a rule the glands clear up during the first week.

I have only seen one case of suppuration, and the septic infection originated from an otitis. Another complication is the affection of joints, and this is probably analagous to "scarletinal rheumatism." The latter is common in scarlet fever, and if the streptococcus accounts for so much in diphtheria, then why are joint troubles so infinitely less common in diphtheria? An ulcerated surface, such as one gets in diphtheria, ought to be still more inducive to this septic absorption than in scarlet fever. My experience of pneumonia in diphtheria is nil. There were no cases during my term of office at the Children's Hospital, twelve of which were of the laryngeal form. A slight catarrh of the upper air passage is common. A remark expressed to me by the matron of the Hospital, I think, is very interesting. She informed me that she had noticed in the past that if one case of pneumonia started in the ward the other patients were sure to have it. This cannot be called a coincidence, and can only be explained by a secondary infection. Recently it has been the rule to keep the windows fully open for ventilation, with the result that we are able to keep the ward free from pneumonia.

Treatment.— Diphtheria is primarily a local disease, hence, our attention should be directed towards local treatment from the first. The throat should be washed regularly with perchloride of mercury (1-2,000). As a matter of fact, the only good this local treatment does is to keep the mouth "sweet" and avoids spetic trouble. I do not believe, for one moment, that it has much effect on the general course of the disease. As mentioned previously, the Loeffleur's bacillus soon gets out of the reach of any local application. The membrane should on no account be detached as it only denudes the surface and encourages septic absorption. The more important part of treatment resolves itself into three sections:—

(*a*) Antitoxin.
(*b*) Nursing.
(*c*) Symptomatic.

Antitoxin Treatment.—Since the introduction of antitoxin the death rate at the Children's Hospital has been gradually declining from 47·1 per cent. in 1897, down to 18 per cent. during the year 1899, and 17 per cent. during the past year. But what is far more important than statistics, which are always open to fallacies, it is really remarkable how some of the most serious cases are pulled out of the fire within 36 to 48 hours. It is extraordinary to think that there are still practitioners amongst us who fight shy of antitoxin. One medical man, a past member of the hospital staff, could not be taken away from his antiquated ideas, so I offered to convince him if he would let me have what he considered practically a hopeless case, provided that I saw the case within three days. He selected his case which was certainly a bad one and sent the patient into the hospital. Two days later he came to see the result and was surprised to see the child as bright as any in the ward and nearly all the membrane gone. At first, he put it down to the strychnine that the child had been having, but finally, he replied to me in the words of Agrippa, "thou almost persuadest me to become a Christian." Since that time he has been almost too zealous about antitoxin. It was our custom to give an injection of 4·000 units on admission, bad cases would receive 6·000 units. In favourable cases, the temperature, if raised, became normal within 36 hours of admission, otherwise, another 2·000 units were injected. I have never seen any unfavourable symptoms following the use of antitoxin. In every case the point of injection was in abdominal wall, the advantage over the scapula region being that the child does not irritate the place of injection by lying on it. In adults the subscapular region is better, inasmuch as the connective tissue here is relatively more lax. With attention to cleanliness, there need be no fear of any abscess formation. Occasionally on the following day a little urticarial swelling may occur around the seat of puncture, but it soon passes off. The majority of cases have some signs of patchy urticaria about the body. Six of the cases had a very marked eruption, three of which were the ordinary type of diffuse urticaria, whilst three had a rash exactly like measles. An extensive rash is apt to remain three or four days. Of these six severe cases three appeared on the ninth day after injection, two on the eleventh, and one on the fifteenth day. One case, I recollect, occurred a few weeks after discharge from the hospital, when the mother brought the child up to the out-patient room with a supposed attack of measles. Occasionally a slight rise of temperature may accompany the appearance of a rash. Cases with albuminuria are the ones most prone to be followed by rashes. Five out of the six cases especially mentioned had a cloud of albumin in their urine; the one that occurred on the fifteenth day was free from albumin. I will simply summarise my general conclusions as to the use of antitoxin:—

(1) If the patient is injected within three days there is every hope of recovery.

(2) The membrane usually disappears within three days.

(3) I have never seen involvement of the larynx after antitoxin has been administered.

(4) Antitoxin is practically useless in cases complicated by septicæmia.

(5) When complicated with measles antitoxin is still indicated.

(6) Uræmia and nephritis are no contra-indication to the use of antitoxin.

(7) Antitoxin, whilst it does not prevent paralysis, certainly minimises its severity.

Nursing.—No disease requires such careful and watchful nursing as does diphtheria, and I almost think that it is as important as the administration of antitoxin. The patient should be kept absolutely prone for at least three weeks. There is a risk even to raise the head for feeding. With threatening heart trouble, the condition of the child is at times very deceptive, and these are the cases that yield disastrous results. I have seen a child, apparently doing well, die whilst being propped up to take its food. It is only natural to find this accident more common in private practice, where well-meaning but ignorant relatives are constantly intervening in the sick-room. Where possible, a nurse especially trained in the nursing of diphtheria should be obtained. The diet should be nutritious and light. To meet these requirements of course milk is the favourite food, but I am not at all sure that milk diet has not been responsible for some deaths. There is a serious drawback to such a diet, inasmuch as the stomach is apt to become very distended—a fact I have verified in the post-mortem table—and the pressure of a distended stomach on a feeble heart is of very serious import. A similar remark applies to cases of pneumonia, where too often insufficient care is taken to keep down gastric distension. There is a new product on the market known as plasmon, which contains the natural milk proteids in a dry form, prepared from milk by precipitation by CO_2. I have not had an opportunity of judging of its merits as yet, but a food of this nature comes nearer the ideal for the condition we are dealing with, where a maximum amount of nutritive material is obtained in a minimum of bulk. In cases of paralysis of the pharynx resource must be had to nasal-feeeding. There is little difficulty in passing the nasal tube since the pharynx is far less sensitive than in health, and it is remarkable how easily this method can be utilised in these patients. In keeping the bowels open avoid depressing purgatives. Encourage plenty of ventilation; remember that any acute specific fever can be rendered malignant by bad hygienic surroundings.

Symptomatic Treatment.—Heart failure must be treated on general principles, the prone position and supporting the strength by diet. The most useful drugs are iron and strychnine. It is well to put the patient on strychnine at the earliest sign of failure in the pulse. Children act remarkably well to this drug, and an irregular and intermittent pulse will quickly quieten down under its action. Digitalis is useful when the pulse is rapid, but in other cases it is very subordinate to strychnine. Temperance advocates may be at their ease in this disease, for with the dilatation of the heart alcohol rather acts like flogging a tired horse and was very seldom used. Of course, in severe cases, in the absence of serious cardiac dilatation, alcohol may be used advantageously as a stimulant. In laryngeal cases our treatment has to be directed towards relieving the urgent symptoms of dyspnœa. All the cases sent into the hospital were for operation. The operation which had preference with us was intubation, and I must say that if the performance of the operation were the "end all," trachetomy would be entirely replaced. There is nothing more striking than the complete relief obtained within about 30 seconds, the child falling comfortably asleep with easy respirations and without any wound and no loss of blood. In the majority of cases the patient does well subsequently. Unfortunately experience of intubation does not leave quite such a clean sheet, and I am sure that the operation will never enter into general private practice. Whilst the child is wearing an intubation tube it is in constant danger from accidents, and if a medical man is not on the spot it may lose its life at any moment. The patient is liable to a curious form of spasm which is hard to localise and somewhat difficult to account for. What we find is that the patient is suddenly seized with symptoms of complete obstruction, struggling for its breath, and becoming purple in the face. On removal of the tube this generally passes off, but on the other hand a similar spasm may occur when the tube is first removed in the ordinary course of events, which is usually about the third day. If we examine the tube when we remove it to relieve a spasm, it is found patent. I believe the condition is due to one of two things, either the tube becomes closed by pressing against the posterior wall of the trachea at its inner opening, or else this opening becomes blocked by a flap of membrane separating from the wall of the trachea. In this way it would be easy to conceive of the membrane blocking the opening without necessarily entering the lumen of the tube. The latter idea is further supported by the fact that the accident is liable to occur about the end of the second or third day, viz., the time when the membrane is leaving its attachments, a process which, once started, is completed very rapidly. For this reason it has occurred to me that it would be better in laryngeal cases to administer the antitoxin in repeated small doses so as to get a gradual effec rather than an explosive one. As a result of this spasm it often happens that tracheotomy becomes necessary after intubation A child was admitted with laryngeal diphtheria and intubation was performed. On the fifth day the tube was removed but had to be reinserted. Further attempts at removal took place four days later and again three days later, but had to be introduced again each time. Two days later the tube was accidentally coughed up. She breathed quietly for ten minutes and then became cyanosed and stridulous. Tracheotomy was performed, but the child never rallied. *Post-mortem*, there was no sign of membrane, the lungs were healthy and the heart contracted. Had tracheotomy been performed in this case in the first instance, the child would certainly be alive now. I could quote similar cases where tracheotomy had to be performed with the tube *in situ*. Intubation is not an operation to be undertaken without practice, but when once the knack is grasped there is no difficulty in its performance. There is a time when intubation is most useful, and that is in the stages preceding the urgent symptoms of dyspnœa, and when there is a doubt as to whether tracheotomy is indicated, in which case the former operation will ward off urgent symptoms. In children about 12 months or under it is also, perhaps, a safer operation.

Permission for intubation is more readily obtained than for tracheotomy. The necessity for any operation, however, will become less and less as antitoxin becomes more universally used. Further, the risk of tracheotomy now is comparatively slight. One of the honorary physicians of the hospital informed me that in the pre-antitoxin days they never expected a case of tracheotomy to recover; now we never expect one to do otherwise. During my term of office eleven tracheotomies were performed by my colleague and myself, with nine recoveries; the two fatal cases died on the table. As a suggestion for success, I would say avoid chloroform. After the use of antitoxin I have never seen diphtheria attack the wound. In conclusion, just one word about the management of tracheotomy. It should be remembered that the operation is performed to get over an emergency, and that as soon as that is passed there is no longer any use for a tube To leave the tube in longer than necessary is only courting further trouble. It is well to start and accustom the child to breathe through its mouth by blocking up the external opening at short intervals at the end of about 48 hours, and on the third or fourth day the tube can usually be left out entirely.

THE TREATMENT OF WHOOPING-COUGH.

BY J. E. GODSON, M.R.C.S., L.R.C.P.,
DROYLSDEN, MANCHESTER.

WHOOPING-COUGH is a disease so painful to all concerned, and so general in its occurrence, that its successful treatment is a matter of importance to the community at large. It is, moreover, the most fatal disease of childhood next to scarlet fever; and in the first year of life probably the most fatal disease of all. Whooping-cough is so closely associated with bronchitis, that its treatment, except in the paroxysmal stage, is practically the treatment of the different varieties and stages of that disease. Without the paroxysm—and it is stated that the disease pertussis is not necessarily accompanied by a paroxysm—the great majority of cases of whooping-cough are, clinically considered, a form of ordinary bronchitis. Consequently the special treatment of whooping-cough resolves itself into the treatment of the paroxysmal stage.

If it is true that our knowledge of the treatment of a disease is in inverse ratio to the number and variety of drugs and the multiplicity of methods we employ to combat it, then our knowledge of the treatment of pertussis is in a most unsatisfactory condition. The following is a list, more or less complete, of the remedies we are authoritatively recommended to employ as being of service:— Alum, antipyrin, acetanalide, belladonna, bromides, cannabis indica, carbolic acid, chloral hydrate, creasote, lobelia, opium and its derivatives, phenacetin, quinine, etc. As I thought it probable that many of these were text-book remedies not in anything like general use among medical workers, it appeared to me that an expression of opinion on this subject from a number of general practitioners would not be devoid of interest, and would probably result in a greatly diminished list. I was moreover influenced in thinking that such a collective opinion would be valuable by the consideration that whooping-cough is *par excellence* a "practitioner's" in contradistinction to a "consultant's" disease; the former treating dozens of cases to every single one treated by the latter. In response to a circular on this subject addressed to a large number of general practitioners I was favoured by many interesting replies, and was enabled to draw the following conclusions. The working list of drugs was diminished into the following:—Antipyrin, belladonna, creasote, carbolic acid and opium. These are the active drugs, while as accessories and adjuvants are mentioned, chloral hydrate, quinine, butyl-chloral hydrate, etc. Inhalents appear to be in general use, the ones referred to being carbolic acid, creasote, chloroform and bromoform. None of the other drugs are mentioned by my correspondents. The relative popularity of the various drugs is as follows:—Belladonna, 32 per cent.; carbolic acid, 28 per cent.; bromides, 20 per cent.; creasote, 12 per cent.; antipyrin, 6 per cent.; opium, as paregoric, 2 per cent. The personal factor appears to count for much in the treatment of this disease, and there is very wide variety in the mode of procedure adopted. One practitioner depends entirely on carbolic acid; another pins his faith on paregoric alone; a third uses nothing but creasote vapour; while the great majority would consider no prescription complete which does not contain belladonna. Even in the use of belladonna there is diversity of opinion, some being satisfied with an average dose and others pushing it to the limits of safety. Of course all prescriptions contain expectorants in combination, and the favourites are the alkalies and ipecac.

The large number of replies I received were chiefly remarkable for their therapeutic scepticism. Such expressions of opinion as are exhibited in the following extract were common:—"With regard to drugs, personally, I rather favour the idea that they are generally useless. But if any do good (which is doubtful) probably the ones I mention, may." The only exceptions to this state of helplessness were exhibited in the experiences of those few practitioners who had used creasote vapour. They were without exception enthusiastic in its praise. By collating their opinions and comparing them with my own observations I was able to draw the following general conclusions. When given internally this drug appears to exert very little beneficial effect; while its obnoxious taste renders it objectionable to the patient. Its inaction when employed in this manner is remarkable, but I have tried it systematically in a large number of cases, always with the same negative result. On the other hand, when employed as a vapour the benefit derived from it is very soon apparent. The first effect noticed is a diminution in the frequency of the paroxysms. The spasms are always lessened in number before there is any perceptible alteration in their severity, indeed the individual spasms may continue with undiminished violence almost to the termination of the disease. As a rule, however, a few days of treatment will cause all vomiting to cease. In many cases a cure is effected in five or six days; in very virulent attacks it may require as many weeks, though this is exceptional. One advantage is that it does not interfere with other methods of treatment. The inhalation appears to be free from danger except where the chest is full of moist sounds, in which case its action should be carefully watched. When employed judiciously it produces no ill effect on healthy lungs. Further than this, I have never seen any fresh case of infection arise in a family the healthy members of which have been exposed to the influence of the vapour. Yet whooping-cough is one of the most infectious of diseases among children. If extended experience should prove it to possess any prophylactic action it will add one more link to the chain of its good qualities.

Creasote vapour can be employed in various ways, with steam by means of a kettle or steam spray producer, by use of a dry or moist inhaler, by sprinkling on a cloth hung up to dry in a room, by vaporising over a spirit lamp, etc. All these means are more or less effectual, but the more continuous the inhalation the better the result obtained. Very possibly intermittent inhalation would be equally successful if a "creasote chamber" could be employed like that devised by Dr. Chaplain for the treatment of bronchiectasis where the patient is exposed for a limited period to powerful fumes. This method, however, for obvious reasons, is not practicable in general practice.

The method of treatment I have found most satisfactory is the following:—Commence at once with the continuous inhalation of creasote by suspending creasote cloths both in the day and night chambers. The density of the vapour employed can easily be regulated by varying the number of cloths. Treat any accompanying bronchitis, and clear the lungs of all moist sounds as much as possible before using any special internal anti-spasmodic remedies. Antipyrin may be given in suitable doses in all cases where the lungs are fairly clear, provided that the circulation is good. Expectorants may be combined with the antipyrin. The chest and upper part of the spine should be treated by counter-irritation. Good air, warm clothing, light and wholesome food are necessary in all cases. I have employed these methods for the last seven years and am quite satisfied with the results. The average length of time required for cure in a variety of cases during a severe epidemic was under twenty days. Had the details of the treatment been always conscientiously carried out by the patient's friends, even this result would probably have been bettered. I feel quite confident that its good qualities only require to be known for its employment to become general in the treatment of this disease.

MEDICAL ABSTRACTS.

REPORT ON RENAL AND URINARY DISEASES.

BY PROF. ROBERT SAUNDBY, M.D, LL.D., F.R.C.P.

Lépine, R. *La Dyscrasie Toxique, Complication du Diabète, et son Traitement.*—(*La Semaine Médicale*, 1900, No. 48.)

In a review of the recent contributions to the discussion upon diabetic coma, Prof. Lépine has pointed out that according to Schmiedeberg and Walter, the persistent production of ammonia and the consequent defective formation of urea undoubtedly account for many of the symptoms, yet leave unexplained the frequency of the pulse and the peculiar dyspnœa. Further, the opinion that beta-oxybutyric acid is capable of giving rise to these symptoms is contradicted by the experiments of Minkowsky, who administered 9 grammes of sodium oxybutyrate to a dog, weighing 7 kilogrammes, which had been rendered diabetic by extirpation of the pancreas. The animal passed urine during the next twenty-four hours containing acetone and diacetic acid, but showed no other symptoms of poisoning. In order to overcome this difficulty, Sternberg has suggested that beta-oxybutyric acid may be derived from beta-amidobutyric acid, which substance, he has found, produces in dogs and cats an acceleration of the pulse, deep respiration, and coma. It is much more poisonous than beta-oxybutyric acid, as it kills in doses of one gramme per kilogramme. The poisonous symptoms are like those of diabetes, and the production of 60 grammes of this acid daily is not impossible. Jaquet puts aside this plausible theory on the ground that, if true, this acid ought to be found in considerable quantities in the urine and tissues, but Lépine points out that very little is known of the intermediate stages by which sugar is converted into carbon dioxides, and that, so far as he knows, no one has undertaken any direct researches to look for this acid. While admitting that there is no direct proof in favour of the hypothesis, he considers that it is plausible, and he suggests that it is formed from beta-amidobutyric nitrile, its production being accompanied by the formation of a molecule of ammonia. Such nitriles are contained in albuminoid substances and are capable of giving rise to very dangerous poisons, such as cinnamic nitrile, and he suggests that if beta-amidobutyric acid is not the true cause of diabetic coma, it is probable that it is due to some of these complex nitriles. With reference to therapeutics, he points out that Fiquet has shown that phenols have the power of antagonising the toxicity of nitriles, but he has no experience to support this suggestion, and for reasons which would be too long to give, he doubts the practical success of such medication. He considers that a careful consideration of the facts in the light of these new researches suggests that in the first place, the functions of the kidneys which are always impaired in those cases of diabetes which terminate by coma, should be carefully watched, and he counsels the use of a weak diuretic mineral water. When acidosis is really present, bicarbonate of soda in large doses should be given, but he warns against the employment of excessive doses such as 100 grammes (3⅓ ozs.), as they are not absorbed, but the absorption of the salt should be closely followed by watching the reaction of the urine and by estimating the quantity of soda present in that liquid. If coma is imminent, he recommends the intravenous injection of a one per cent. solution of bicarbonate of soda. He considers subcutaneous injections to be dangerous in diabetes and urges that the solution should be injected very slowly into the veins, the heart being auscultated from time to time. In this way, 2 or 3 litres (3 to 4½ pints), can be introduced without risk. Finally, he recommends the employment of oxygen inhalations.

Lépine, R. *Is it permissible for Diabetics to use Sugar?*—(*La Semaine Médicale*, December 12th, 1900, page 425.)

Forty years ago sugar was used in the treatment of Diabetes, partly on the absurd theory that, as the organism was losing sugar, it was necessary to give it, and by others—such as Budd, Corfe, Sloane—because they had observed empirically that patients so treated derived benefit. Lépine says that the cases published are wanting in indispensable details to enable us to judge of their value, but he has recently had a case under his own care which proves that in certain cases of diabetes a small quantity of sugar may be beneficial. The patient in question was a man aged 60, who had suffered from moderate diabetes for twenty years. The average daily quantity of urine was about 60 ounces, containing about 1,800 grains of sugar. Last winter, after an attack of influenzal bronchitis, he became much worse and lost a good deal of weight, while he was so feeble that he could hardly walk about his room. Despairing of recovery, he allowed himself the indulgence of putting sugar in his wine, tea, and coffee. To his surprise, he found that a dose of 600 to 700 grains of sugar daily had no ill effect, but, on the contrary, increased his strength. Starchy food did not produce the good effects of sugar. Lépine saw him at this stage, when he was evidently improving. His body-weight, which had fallen to 100 pounds, had increased nearly two pounds in fifteen days. He was passing about 53 ounces of urine daily, containing about 209 grains of sugar and nearly 0·7 per cent. of urea. There was no colorisation on the addition of perchloride of iron. Accordingly, Lépine encouraged the patient to continue the use of sugar in the doses stated. He explains the apparent paradox by pointing out that, as is well known, all diabetics can take a small quantity of sugar or sugar-forming food, and that it is impossible to determine without experiment what that quantity may be. Cane sugar is composed half of glucose and half of lævulose, and it is well known that many diabetics tolerate a moderate quantity of lævulose very well. Something also depends upon the rate at which sugar is absorbed; the faster it is absorbed the more likely it is to increase glycosuria. He suggests that honey, which contains almost exclusively lævulose, might be more suitable than sugar; and he concludes that it is not irrational to allow certain diabetics to take definite small quantities of sugar.

Albert Robin. *La Glycosurie et le Diabéte d'origine dyspeptique. Symptomes, diagnostic et traitement (1).—(Revue de Thérapeutique Médico-Chirurgicale,* February 15, 1901, page 109.*)*

M. Robin commences his article by saying that glycosuria is a hepatic result of dyspepsia and especially of acid dyspepsia which has not yet been described, or if it has been observed, has not been ascribed to its real origin. Conf. my article on "Non-Diabetic Glycosuria," section "Gastric Glycosuria," published in the *British Medical Journal,* 1900, vol. i., page 889. However, the article is a serviceable contribution to the clinical history of this disease. It draws attention to the following facts: the essentially irregular character of the glycosuria; the relatively small quantity of sugar; the presence of sugar during digestion and its absence at other times; the existence of albuminuria; the presence of slight polyuria; density slightly increased, 1,022 to 1,032; increase of urea; the excess of phosphates and of uric acid. These cases present none of the symptoms of diabetes, and sugar is always discovered by accident. M. Robin does not accept the view that in diabetes there is defective consumption of sugar, but on the contrary attributes the morbid phenomena to excessive production.

The symptoms which are present are dyspeptic troubles, distension of the stomach, enlargement or the liver and on the side of the nervous system neurasthenia, vertigo, phosphatic urine, skin troubles, cardiac disturbance, profuse sweatings, etc., but none of these have any special significance. The condition of diabetic glycosuria may pass into dyspeptic diabetes, that is to say, all the symptoms, thirst, polyuria, wasting may be present; this transformation M. Robin has observed, and he gives instances of it. The treatment which he recommends is absolute milk diet with alkalies, such as magnesia, bicarbonate of soda, chalk, Vichy water, etc., to combat the excessive acidity. M. Robin is the inventor of a system of treating diabetes which he calls the "alternative treatment," in which he gives antipyrin, bicarbonate of soda, arsenite of soda, arsenite of potash, carbonate of lithia, codeia, opium, belladonna, etc., after a certain fashion which he has laid down, but he only recommends this method when the above described measures fail. As acid dyspepsia, that is to say, dyspepsia dependent upon excessive secretion of hydrochloric acid is undoubtedly a neurosis, it is doubtful whether this form as described by M. Robin deserves the name of glycosuria of gastric origin.

Strauss. *Untersuchungen über alimentäre, "spontane" und diabetische glykosurieen unter besonderer Berücksichtigung des Kohlehydratstoffwechsels der Fiebernden und der Potatoren.*—(*Zeitschr. f. klin Med.*, Ed. 39, 1900, S. 202.)

As the result of extensive researches, Strauss has formulated the following important conclusions:—Alimentary glycosuria, following the ingestion of large quantities of grape sugar, is due to an alteration of the tissue exchanges in the body. There is no hard and fast line between alimentary glycosuria e saccharo and alimentary glycosuria ex amylo. Most of the cases of alimentary glycosuria e saccharo become glycosuric from the use of large quantities of carbo-hydrates. But the tolerance of carbo-hydrates of these persons is also frequently distinctly lessened by the prolonged abundant use of carbohydrate food. In one case of alimentary glycosuria and in three diabetics there was less tolerance of starch meal than of grape sugar. Observations were especially made upon cases which have a special relation to glycosuria. In drunkards the excretion of sugar frequently occurs, not only after the administration of dextrose, but also after the use of starch. The same result was usually obtained in the glycosuria of fever cases, but most of them were alcoholic. In opposition to the not very rare glycosuria which occurs after genuine epileptic attacks, in three cases of alcoholic epilepsy the assimilation of carbo-hydrates was increased after the fits. It is characteristic of the alimentary glycosuria of alcoholics that abstinence causes it to disappear, but Strauss holds that drunkards who use a large quantity of carbo-hydrate food are liable to develop true diabetes.

Wille. *Die alimentäre Glykosurie und ihre Beziehungen zu Pankreasaffectionen.* — (*Deutsch. Arch. f. kln. Med.*, *Bd.* 63, S. 546.)

As the result of the administration of 100 grammes of grape sugar to 800 patients, and the observations of the changes in respect to sugar excretion in the urine of the most diverse diseases, including 77 autopsies with microscopical examinations of the pancreas, Wille concludes that the regular occurrence of alimentary glycosuria is an important diagnostic sign of pancreatic disease, but that transient alimentary glycosuria has no such significance, while on the other hand the absence of the symptom does not prove that the pancreas is healthy.

v. Jacksch, R. *Ueber die alimentäre Pentosurie der Diabetiker.* —(*Deutsch. Arch. f. klin. Med.*, *Bd.* 63, S. 612.)

Experimenting with pentoses (arabinose, xylose, and rhamnose) on diabetic patients von Jacksch has found that these sugars increase diuresis and cause diarrhœa (especially rhamnose) and also increase the excretion of nitrogen (in the latter relation chiefly xylose), and are entirely incapable of being used up in the bodies of diabetic patients. The cells of diabetic patients like yeast cells cannot utilise pentoses. A large percentage of the ingested material leaves the body again in the urine and fæces. There is no diminution of the excretion of glucose.

R. Lépine and Boulud. *Maltosuria in certain Diabetics.*— (*La Semaine Médicale*, 1901, No. 11, p. 84.)

After referring to the occasional presence of pentose and left rotatory sugar in small quantities in the urine of diabetics, the authors refer to a case in which maltose has been found in a woman aged 40, suffering from severe diabetes. They found that the amount of sugar estimated by the polarimeter was much greater than that shown by Fehling, but after the urine had been boiled in the presence of hydrochloric acid, they noticed a great diminution of the polarimetric figure and a decided increase of that given by the copper test. This is precisely what should be produced by the hydrolysation of maltose, as this sugar is three times more dextrarotatory than glucose and is transformed into glucose by hydrolysation, after which there is necessarily a great decrease of polarimetric deviation, while as maltose reduces Fehling less than glucose, after hydrolysation the latter figure is increased. They have also found maltose present in the urine of depancreatised dogs.

F. W. Pavy and R. L. Siau. *On the Nature of the Sugar present in Normal Blood, Urine and Muscle.*—(*Journal of Physiology*, February 28th, 1901, Vol. xxvi, Nos. 3 and 4.)

The authors have been able to prove by the osazone method the presence of sugar which they regard as probably Fischer's isomaltose in blood, normal urine, and muscle extract. They have also found this sugar present in certain cases of glycosuria.

G. Leslie Eastes. *A Note on the Phenyl-hydrazine Test for Sugar.—British Medical Journal*, February 23, 1901, p. 454.

Walker Hall. *A Note on the Phenyl-hydrazine Test for Sugar.* Ibid. p. 454.

Mr. Leslie Eastes supposes that the usual statement that this test can be successfully performed with 5 c.cm. of urine is only true when the specimen contains more than 20 per 1,000 of sugar. Where it contains less he recommends the following method:—

Take of the filtered urine about 60 c.cm. in a beaker of 100 c.cm. capacity. Add 1 gram of sodic acetate and rather less of the phenyl-hydrazine hydrochlorate. Stir with a glass rod, which remains in the beaker throughout the entire operation. The beaker is then placed on a water bath and the urine gradually evaporated down to 10 to 15 c.cm. During this process the beaker should be occasionally removed, and any sediment collected on the sides of the vessel scraped off with the glass rod into the fluid. In this way none of the sugar is left by evaporation on the sides of the beaker. When reduced to the bulk above indicated the flame should be removed, and the beaker remaining on the bath the whole should be allowed to cool. This will take two hours or longer. When quite cold stir up all sediment, and with a pipette place some on a glass slide for microscopical examination. Osazone crystals will have formed if there is one part per thousand or more of sugar in the urine. If no crystals are found it may be safely concluded that sugar (that is glucose) is absent.

He thinks lactose may be differentiated from glucose by the different shape of the crystals; those of lactosazone being usually short, broad, curved in the longitudinal plane, pointed at one or both ends, and showing less tendency to sheaf or rosette formation than crystals of glucosazone.

The above statement, that 5 c.cm. are insufficient for demonstrating the presence of sugar by this test when small quantities only are present, is directly opposed by Mr. W. Hall, who says: It appears that 0·5 gram. (7 to 8 grs.) of phenyl-hydrazine, 1·5 gram. (23 grs.) of sodium acetate, and 5 c.cm. (2 drachms) of urine give the most rapid and satisfactory results with glucose; but that 10 c.cm. should be taken if the solution contains maltose or lactose. These quantities suffice with a solution of 0·1 to 5 per cent. Mr. Hall recommends that the operation should be performed in the following manner:—

Before adding the urine the re-agents should be dissolved by gently warming in a few centimetres of water. When the urine is added the mixture is brought to the boiling point, and there maintained for fully three minutes with strong, and five minutes with weak, solutions. After some practice, however, a change in the manner of ebullition will be noted as an indication when to stop the boiling. The test-tube need not be placed in cold water; it should simply be placed at rest. Within two to ten minutes the crystals will be formed.

A very delicate reaction, based upon an extension of this test, is suggested by Professor Riegler (*Deut. Med. Woch*, 1901, No. 3): 0·1 gram. of phenyl-hydrazine hydrochlorate and 0·5 gram. of sodium acetate are dissolved in a few drops of water, and then boiled during several seconds with 1 c.cm. (20 drops) of urine or sugar solution; 1 c.cm. (20 drops) of caustic soda (10 per cent.) is added, and within one second to five minutes a deep red-violet colour appears. If performed in a porcelain dish instead of a test-tube the colour change is well marked, and is developed in rings or streaks that are both striking and distinctive. From careful examination, he concludes it to be specially sensitive, and quickly responsive to 0·01 per cent. of glucose in solution.

Fehling's solution is not reduced by sugar solutions containing less than 0·5 per cent., but the above reactions are sensitive to 0·01 per cent., and are not produced by kreatinin, uric acid, etc. The crystallisation is best obtained when the white pure phenyl-hydrazine hydrochlorate crystals are used. [The statement that Fehling's solution is not reduced by sugar solutions containing less than 0·5 per cent. is certainly incorrect, as it is quite possible to appreciate the entire reduction of Fehling's solution by urine containing 0·5 per cent. or less diluted five times! Rep.]

Chatin and Guinard. *The Treatment of Diabetes by Serum obtained from the Pancreatic Vein.*—(*Lyon Méd.*, Dec. 23rd, 1900.

Chatin and Guinard point out that in opotherapy the method usually employed to obtain the internal secretion has the disadvantage of dealing with organs which are dead, however rapid their removal from the animal may be. They determined, therefore, to follow the method of Teissier, who used the serum from the renal vein of a goat in a case of uræmia. The serum which they obtained from the pancreatic vein of a dog was administered in two cases of diabetes by means of rectal injections. Both patients were placed on a moderately strict diet, and were observed for some days before the injections were begun. No other drug was administered. The observations showed an appreciable decrease in the amount of sugar excreted, but in both cases the quantity had progressively diminished upon the limited diet before the exhibition of the serum. Moreover, a double dose of the serum (10 c.cm.), had no more effect than the single dose upon the quantity of sugar. The authors conclude that the serum had no influence upon the disease. Negative results have been obtained in dogs deprived of the thyroid or kidneys by serum from the thyroid and renal veins respectively. They conclude, therefore, that the internal secretion should be sought for in the lymphatics rather than the veins.

M. S. Goldflam. *Percussion of the kidney.*—(*Berlin klin., Wochensh*, January 14, 1901.)

Goldflam recommends the following proceeding as a method of investigating the kidneys. The patient should be seated or standing with his back turned to the examiner, and the chest bent forward. The examiner then strikes lightly with the ulnar border of the closed fist upon the lumbar region perpendicularly to the mass of the sacro-lumbar muscles or slightly obliquely, so as to induce a series of shocks which, while painless in healthy persons, are distinctly painful in certain renal diseases such as stone in the kidney, pyonephrosis, new growths, and tuberculosis. It should be added that this proceeding may be painful in the absence of any true kidney disease, but it is useful as a means of differentiation in affections of organs in the neighbourhood of the kidneys, such as biliary colic, tumour of the gall bladder, spleen, or stomach, in none of which does this proceeding ever give rise to pain.

Victor E. Mertens. *The Biological Proof of the Blood Origin of Albuminuria in Bright's Disease.*—(*Deutsche Medicinische Wochenschrift*, 1901, No. 11.)

Wassermann and Schütze have invented a method of recognising human blood based upon the fact that blood serum of an animal, treated by repeated injections of the blood of a particular species of animal—for example, a man—causes a precipitate when brought into contact with the blood of that species. Mortens has utilised these facts in order to demonstrate the blood origin of albuminuria in cases of Bright's disease. He has found that serum obtained from animals, prepared as above, always caused a precipitate with human blood and albuminous urine. He also found that albuminous urine may be used in order to prepare animals with as good effect as blood serum or pleural or peritoneal exudation fluid. The blood of the young of an immunised mother, obtained just after birth, also caused a precipitate.

Lommel. *Ueber die Herkunft der Oxalsäure im Harn.*—(*Deutsch. f. klin. Med.*, *Bd.* 63, S. 599.)

Lommel finds that when oxalic acid is given by the mouth only a part of it can be recovered from the urine and fæces. It is probably destroyed in the intestine through the action of bacteria. The oxalic acid in the urine is only in part formed from the oxalic acid of food. Food rich in nuclein (calfs thymus) and gelatine increases the excretion of oxalic acid, but this does not stand in direct relation with the destruction of albumose.

Askanazy, M. S. *A Case of Lymphatic Leucocythæmia with Albumosuria* (*Bence-Jones's albumen*).—*Deutsch. Arch. f. klin. Med.* lxviii., 1-2.

A man, aged 50, twelve months before his death, was attacked by progressively increasing weakness. Six months later, the cervical glands swelled and the patient contracted fibrinous pneumonia which was followed by œdema of the legs. A physician consulted at the time, diagnosed nephritis and a tumour of the abdomen. Shortly afterwards, the patient obtained admission to the Medical Clinic at Königsburg. At that time he presented marked œdema of the legs and abdomen, cyanosis, swollen glands in the neck, the axilla and the thorax, a tumour also of glandular nature as large as a child's head in the abdominal cavity and many small tumours of the same kind in Douglas' pouch. There was a systolic murmur at the apex, but the heart was not dilated. There was no fever and the bones were not enlarged. The blood showed the characteristic alterations of lymphatic leucocythæmia, finally, the urine contained about 1 per 1,000 of albumose (Bence-Jones's albumen), without any trace of albumen or sugar. Five weeks later, the patient died suddenly of pulmonary œdema. At the autopsy, beside the glandular tumours observed during life, there was a lymphoid hyperplasia of the bone marrow, with slight swelling of the spleen and hypertrophy of the lymphoid follicles of the tongue. The bone marrow contained albumose, but this substance could not be discovered in the enlarged lymphatic glands. Up to the present time Bence-Jones's albumen has been regarded as a pathognomonic sign of myeloma, but the present observation shows that the excretion of this substance is equally connected with the diffuse lymphoid alteration of the bone marrow which is observed in lymphatic leucocythæmia. Albumosuria therefore appears to depend upon any lesion of the bone marrow and not exclusively upon multiple myeloma.

REPORTS OF SOCIETIES.

BRITISH MEDICAL ASSOCIATION.

BIRMINGHAM AND MIDLAND COUNTIES BRANCH.

The Sixth Ordinary Meeting of the Session was held in the Medical Institute, Birmingham, on March 14th, 1901, the President, Dr. **Milner Moore**, being in the chair.

Forty-three members were present.

The Minutes of the last meeting were read, confirmed and signed.

The following communication was received from the Home Secretary, the Right Hon. C. T. Ritchie, in acknowledgment of the vote of condolence to H.M. the King, passed at the meeting held January 24 last:—

Home Office, Whitehall,
21 February, 1901.

Sir,

I am commanded by the King to convey to you hereby His Majesty's thanks for the Loyal and Dutiful Resolution of the Members of the Birmingham and Midland Counties Branch of the British Medical Association, expressing their sympathy with His Majesty and the Royal Family on the occasion of the lamented death of Her late Majesty Queen Victoria.

I am, Sir,
Your obedient servant,
CHAS. T. RITCHIE.

J. T. J. MORRISON, ESQ.,
Hon. Secretary.

The following gentlemen were elected Members of the Branch, viz.:—J. G. Emanuel, M.B.; L. G. Hallwright, L.R.C.P.; R. A. Lyster, L.S.A.; W. E. Nelson, L.R.C.P.; J. H. Patrick, M.R.C.S.

The following nominations were received for Office Bearers in the ensuing Session, viz.:—

I.—By the President on behalf of the Council—

President-elect, Dr. Henry Malet; *Treasurer*, Mr. Frank Marsh; *Hon. Secs.*, Mr. J. T. J. Morrison and Dr. T. Stacey Wilson.

Country Members of Council: Mr. A. Freer, Mr. Vincent Jackson. Dr. J. H. Joy, Dr. Malet, Mr. M. A. Messiter, Dr. E. N. Nason, Mr. F. W. Underhill, Dr. T. E. Underhill.

Town Members of Council: Mr. H. Eales, Dr. Foxwell, Mr. Haslam, Mr. G. Heaton, Mr. Bennett May, Mr. C. Martin, Dr. Rickards, Dr. Saundby, Mr. J. W. Taylor.

Representatives in the Council of the Association: Mr. Langley Browne, Dr. Carter, Mr. Jordan Lloyd.

Representatives on the Parliamentary Bills Committee: Mr. Agar, senr., Mr. Barling.

Members of the Ethical Committee: Mr. Langley Browne, Dr. Carter, Mr. Haslam, Mr. V. Jackson, Mr. Messiter, Mr. Oakes, Mr. Priestley Smith, Dr. T. W. Thursfield, Mr. P. Whitcombe.

II.—By written nominations handed in during the meeting:—

Town Members of Council: Dr. Kirby, Dr. Leech, Mr. Newton, Dr. Simon.

Representatives in the Council of the Association: Mr. Haslam, Mr. E. B. Whitcombe.

Members of the Ethical Committee: Mr. M. Hallwright, Dr. Saundby.

Double Intestinal Anastomosis.—Mr. Gilbert Barling showed a patient who had made a good recovery after this operation.

Gastro-Jejunostomy for Pyloric Obstruction.—Mr. Gamgee showed a woman, æt. 32, who, ten years before, began to suffer from symptoms of gastric ulcer, which lasted five years, and were followed by dilatation of the stomach. A year ago the stomach was enormously dilated, and the patient, at intervals of a few days, vomited large quantities of fluid. In March, 1900, the stomach was exposed, and a dense, contracted cicatrix was found close to the pylorus. The stomach was therefore united to the jejunum by a Murphy's button. Complete relief of all symptoms has resulted.

Gastro-Jejunostomy for Pyloric Obstruction.—Mr. George Heaton showed a woman, aged 42, on whom he had performed the operation of Gastro-jejunostomy for pyloric obstruction 2½ years previously. The case was shown to illustrate his paper on "Surgical Interference in Disorders of the Stomach." The patient had for two years prior to the operation suffered from gastric troubles, and could take no solid food. She had all the symptoms of a dilated stomach, and an indistinct tumour in the region of the pylorus. At the operation the tumour of the pylorus was thought to be malignant. Gastro-jejunostomy by means of a Murphy's Button was performed, and she made an excellent convalescence. She has since been in excellent health, can eat and drink anything, and has gained 1½ stones in weight.

Myomatous Uterus.—Dr. Smallwood Savage showed this specimen, which he had removed from a patient, æt 31, on March 13, 1901. The patient had been married four years, and was confined of her first child (stillborn in the eighth month) in January last. From the fourth month of pregnancy until delivery there was metrorrhagia, increasing during the last fortnight. There was also *post-partum* hæmorrhage, which was controlled with difficulty; and the metrorrhagia, together with an offensive yellow discharge, continued. On examination before operation, the patient was extremely anæmic, and the uterus was found displaced to the left, and continuous with a firm tumour as large as a fœtal head occupying the space of the right broad ligament. The whole tumour was removed by pan-hysterectomy. There were general adhesions, and the operation was especially difficult, owing to the great vascularity of the broad ligaments, and the low situation of the tumour in the pelvis. The upper ligatures were cut short, while the lower ones, together with a gauze drain, were brought down into the vaginal opening. So far, the patient was making a good recovery, with no untoward symptoms. The specimen, it was thought, shewed well the great danger of hæmorrhage, accidental and *post-partum*, when pregnancy is complicated with fibroids.

Automatic Bed-Rest.—Dr. J. F. Heise Ellerton showed a useful appliance for invalids, which had been invented by a patient. The apparatus consisted of a body-sling and head-rest, attached by cords to the pillars at the foot-end of a bedstead; or, in the absence of these, to posts secured to the legs of the bedstead.

Question re Expulsion of Members.—Dr. Leslie Phillips asked what powers, if any, the Branch possessed in the matter of expelling members. The President stated in reply that the point was not specifically referred to in the By-Laws.

Surgical Interference in Disorders of the Stomach.—Mr. George Heaton read a paper on this subject, under the following heads:—"Advances in gastric surgery; interference in gastric perforation; for hæmatemesis; in gastric dilatation: pyloroplasty, or gastro-jejunostomy in non-malignant pyloric stenosis; the surgery of the hour-glass stomach, and gastric adhesions; statistics of pylorectomy for carcinoma; gastro-jejunostomy as a palliative measure." The paper was dicussed by Mr. Bennett May, Mr. Barling, Mr. Morrison, Mr. Langley Browne, Mr. Oakes, and Dr. Stacey Wilson; and Mr. Heaton replied.

Remarks and Statistics founded upon 5,000 Deaths from Malignant Disease.—A paper with this title was read by Dr E. N. Nason. The following points were dealt with:—"The proportion in which the two sexes are affected; probable causes of the disproportion; table of percentages showing the proportion in which the various organs are attacked; what may be deduced from this table; some predisposing cases of cancer; the exciting cause; its possible means of entrance; what clinical evidence is there of the contagiousness of cancer?" Remarks were made by Mr. Morrison and Mr. Heaton; and Dr. Nason replied.

A Special Meeting of the Branch was held in the Medical Institute, Birmingham, on March 28, the President, Dr. MILNER MOORE, being in the chair.

Thirty-seven members of the Branch, and one unattached member of the Association, were present. The meeting was convened to consider the Provisional Report of the Constitution Committee, which had previously been considered by the Council of the Branch. Several country members of Council reported that, as requested by the Council, they had called local meetings in various centres within the area of the Branch. In every case the meetings had expressed general agreement with the main proposals of the Constitution Committee.

The President recited the principal changes in the organization of the Association recommended in the Report, and suggested that the most convenient course would be to discuss them *seriatim*. He therefore begged, in the first place, to move "That this Branch approves of the general principle of Divisions as the Primary Units."

Dr. J. Holmes Joy seconded.

Dr. Saundby thought that the delimitation of the boundaries of Divisions would give rise to some difficulty, and the question needed careful consideration so as to guard against injurious effects on the existing Branches.

Dr. Malins agreed, but suggested that the welfare of the whole Association was the chief thing to keep in view.

Dr. Malet believed that the principle of Divisions would prove, in a political sense, advantageous to the Association; but for scientific purposes, such as the reading of papers, the importance of the Branches must be maintained, and members should not be debarred from belonging to more than one Branch.

Mr. Barling preferred to regard the proposed scheme as a whole, because if one important part were rejected, the value of the scheme in its entirety might be much diminished. In the details were various points open to criticism and enquiry: for instance, the questions relating to finance, and the area of divisions, on which matters decision must be reserved until further information was forthcoming. He moved as an amendment, "That the Branch approves generally of the scheme of reconstruction."

Dr. Saundby seconded, and Dr. Rickards supported the amendment.

Mr. Morrison thought it would be a pity to dispose of the Report merely by a general expression of approval. If that were carried the business of the meeting came to an end, and members would separate with hazy ideas of what the Committee recommended. He strongly supported the original resolution, and gave a summary of the reasons which influenced the

Constitution Committee to advise the adoption of divisions as the primary units.

Mr. Bennett May supported the resolution, and opposed the amendment.

Dr. Kirby, as representing the views of the Birmingham General Practitioners Union, was in favour of the resolution

Mr. Barling, with the consent of his seconder, acceeded to the request that the amendment should be withdrawn.

Mr. Marsh, speaking as Treasurer of the Branch, pointed out that a capitation grant of four shillings would not be sufficient to meet the Branch expenditure, as the present subscription of five shilings barely sufficed.

Dr. Kauffmann, Dr. Carter, Mr. Jordan Lloyd, and Dr. W. Milligan (unattached member) also took part in the discussion.

The Resolution was then put, and carried *nem. con.*

The President then moved "That this Branch approves of the enrolment of all members in the Local Organisation."

Dr. Malet seconded.

Mr. Morrison would not oppose the motion, but it should not be forgotten that, once admitted, undesirable members were not easily removed.

Dr. Saundby thought that the powers of expulsion to be vested in the Council would prove adequate.

The Resolution was carried *nem. con.*

The President next moved "That this Branch approves the principle of the substitution, as far as possible, of a Delegate Meeting for the so-called General Meeting."

Mr. Barling seconded. Dr. Saundby supported the principle, on the understanding that financial questions were reserved for future consideration.

Mr. Bennett May proposed, as an amendment, "That, whilst approving of the principle of direct voting by an accredited Delegate on questions affecting the policy of the Association, this Branch is of opinion that the same result may be accomplished with greater efficiency and economy by a system of limited proxy voting."

Mr. A. Freer seconded, and Dr. Stacey Wilson supported.

Dr. Malet was in favour of the original motion, because the attendance of Delegates would ensure due efficiency of the Annual General Meeting. At the same time he much preferred Representatives to Delegates.

Mr. Morrison, in supporting the motion, reminded the meeting that besides voting powers, deliberative functions were contemplated in the equipment of Delegates. He was of opinion the scheme would be abortive unless it included the payment of railway expenses.

Mr. Bennett May's amendment was negatived by a large majority.

The original Resolution was carried *nem. con.*

The President next moved "That this Branch approves of the Council being invested with powers of Referendum.

Dr. Saundby seconded.

The Resolution was carried *nem. con.*

A communication having been read from the Committee on Medical Organization, inviting the Branch to appoint a Delegate to attend a Conference which will be held in Birmingham on the 23rd and 24th of May next, under the Presidency of Dr. Saundby, for the discussion of the Constitution Committee's recommendations, it was proposed by Dr. Malet, seconded by Dr. Stacey Wilson, and unanimously Resolved, "That Mr. J. T. J. Morrison be requested to act as Delegate of this Branch."

MIDLAND MEDICAL SOCIETY.

The Seventh Ordinary Meeting of the Society was held on Wednesday Evening, March 13th, 1901, at the Medical Institute, the President, Mr. JORDAN LLOYD, in the chair.

Mr. C. Haslewood, M.B., C.M. Aberd., was elected a member of the Society.

Motor Aphasia with retention of Writing Power.—Dr. Short showed a woman, aged 37, who had had right hemiplegia two days after confinement six years ago, probably from blocking of the first and second branches of the middle meningeal artery by a clot. There were signs of old mitral stenosis present. She could say "yes" and "no" in an interjectional manner, but not spontaneously. Considering the loss of power in the right hand still present, she could write fairly well, make figures, add up correctly, write from dictation, or copy (either print or manuscript) and could also read well. Although unable to say a single word at command she talked in her sleep and occasionally sang a few lines of songs she had known many years ago.

Amyotrophic Lateral Sclerosis.—Dr. Short also showed a man, aged 35, with amyotrophic lateral sclerosis. The disease was of seven months' duration, and was of the type in which the atrophy is in advance of the spastic symptoms. There was marked wasting of the deltoids and the extensors of the hands and wrists with excessive deep reflexes in both arms and legs. Up to the present there had been no sign of mischief above the cervical enlargement, the speech, deglutition, and mental condition all being normal with absence also of jaw-clonus.

Pyelo-Nephritic Kidney with Double Ureter.—Mr. J. T. J. Morrison showed a kidney affected with pyelo-nephrosis and having a double ureter, from a woman who had suffered for years from urinary trouble, and who first presented herself at the Queen's Hospital, on Nov. 29, 1900, when stone in the bladder was detected. The patient would not consent to be cut or anæsthetised, but was willing to submit to lithotrity. After due preparation this was done on Dec. 17. As the lithotrite showed the presence of several large stones, it was impracticable to complete the operation without an anæsthetic; and the crushing was discontinued after an ounce of *débris* had been removed. With rest in bed and daily lavage of the bladder, the symptoms improved; but the patient refused further operation, and insisted on leaving the hospital. Increasing pain and weakness compelled her to return, and she then consented to supra-pubic lithotomy, which was performed on Jan. 15, 1901, and several calculi weighing 990 grains were removed. The operation was difficult owing to the shrunken and thickened condition of the bladder. The patient made good progress after the initial shock, but she died suddenly on Jan. 22. *Post-mortem*, there was no disease except in the urinary organs; the right kidney was normal; the left kidney was irregularly bifid and possessed two ureters, the lower one being much dilated, and the corresponding half of the kidney was hollowed out into a number of pus-containing loculi evidently of long standing. The bladder wall was nearly an inch thick. Mr. Morrison raised the question of vaginal cystotomy in cases of this kind where the condition of the bladder was a serious obstacle to the supra-pubic operation.

Paper.—Dr. Douglas Stanley read a paper on Alterations of Sensation in Lesions of the Brain.

REVIEWS.

DISEASES OF THE EAR AND NASO-PHARYNX.*

THIS book opens with a carefully compiled account of the anatomy of the ear, extending to some 70 pages. The wisdom of including such an account in a Text-book is, we think, very doubtful, for, as a rule, anatomical description is best done in the standard anatomical works, and it is not given to everyone to clothe the dry bones of anatomical detail with living interest. However, Mr. Hovell's description is very complete, and he emphasises some points of special importance to the aural surgeon, such as the anatomy of the attic, the Eustachian tube, and the " tympanic antrum," as he justly insists that cavity should be called. The methods of examining patients are next described, and the various tests for hearing. Mr. Hovell recommends an improved form of Brunton's aural speculum for purposes of diagnosis, and we quite agree with him that a good magnified image of the membrana tympani will often reveal details that might otherwise escape observation. In describing the Eustachian catheter precise details are given, viz., the exact gauge, length, and amount of curve desirable for ordinary and special circumstances. This is a matter of some importance, and is generally overlooked in text-books. In passing the catheter we think it is *always* best to insert a speculum and illumine the nasal passages.

After a short general chapter on methods of treatment, including a notice of Urbanschitsch's work on the effect of massage on the auditory nerve, the author passes to the description of diseases of the external ear: Amongst these we are glad to notice that Keratosis obturans of the external meatus is not forgotten. It is by no means a rare affection, though seldom mentioned in books.

---

* Diseases of the Ear and Naso-Pharynx. By T. Mark Hovell. J and A. Churchill, 1901.

Myringitis, acute and chronic, also receives separate notice, and this is no doubt correct, although, of course, in the vast majority of cases myringitis is simply part of an otitis, externa or media. The section on throat affections connected with ear disease is short, but instructive. It includes an admirable description of the proper method of using the guillotine for the removal of enlarged tonsils. The importance of, as it were, threading the lower end of the tonsil through the ring of the guillotine is insisted upon. This is a practical "tip" of real importance, which we do not remember to have seen referred to in any other book. Diseases of the Eustachian tube have a short chapter to themselves, and the ten succeeding chapters are devoted to diseases of the middle ear and some of their consequences.

In his views on the treatment of chronic non-suppurative diseases of the middle ear, Mr. Hovell is cautious and conservative. He disapproves of the various operations on the membrane and ossicles which have received the sanction of some of the more enterprising Continental and American aurists, and in this he will be supported by the great majority of British aural surgeons In speaking of injections through the Eustachian tube, he mentions various substances as suitable, more or less, for this purpose, but omits the safest and least objectionable of them all—viz., liquid vaseline, which was first used by the late Professor Delstanche, of Brussels, with considerable benefit. Eustachian bougies Mr. Hovell never uses. Suppurative diseases of the middle ear are treated of in a very full and satisfactory way, and the same may be said of diseases of the mastoid process, and the various cerebral complications of otitis media. Mr. Hovell rejects Stacke's operation for attic suppuration: "Whenever the ossicles have to be removed the author opens the mastoid antrum, aditus, and tympanum."

With this, as a general rule of practice, we most cordially agree. Mr. Hovell's experience of Ballance's grafting operation is extremely favourable; and this, we believe, is the experience of most surgeons who have tried it.

The operations for cerebral and cerebellar abscess, sinus phlebitis, etc., are all fully described, together with the indications for their performance.

Disorders of hearing in various local and general diseases are next described, including those occurring in the exanthemata tubercle, syphilis, diabetes, etc.; then injuries to the tympanum are considered; and, finally, diseases of the internal ear, injuries, neuroses, electrical treatment, deaf mutism, life assurance, and aural hygiene.

To sum up: the most striking feature of the book is its completeness; nothing seems to have been omitted. It embodies the experience of one of the most experienced of British aural surgeons, and forms a reliable *vade mecum* on the subjects of which it treats.

The author's acquaintance with the foreign literature of his subject is both extensive and accurate, and has enabled him to bring his work well abreast of recent progress in Otology.

The get-up of the volume is excellent.

DIFFICULT LABOUR.*

One approaches this little volume not in the critical spirit in which any accidental stranger is viewed, but rather with the feelings of respect and admiration excited by the renewal of an acquaintance with an old and trusted friend. The author in his preface quotes Bacon in extenuation of any undue dogmatism which he may exhibit; but this dogmatism is the essence and the most valuable part of the work, for when confronted by an emergency or difficulty in the conduct of a midwifery case the vague recollection of various theories held by eminent obstetricians, which have an unfortunate habit of getting sadly mixed up in the memory, is a very weak staff to lean upon, when compared with the sharp and distinct impression that such and such a procedure should be adopted, and no other. *Humanum est errare*, and it can hardly happen that every one of the concise directions with which this book teems, though tested by vast experience, is absolutely and entirely correct; but if the practitioner should feel after the event that something else would have been better, he may find comfort in the thought that at least he has erred with Herman. Whether the teaching in midwifery in the present day be good or bad is a question which happily, does not concern us here, but few will contest the fact that, while the newly-qualified man knows as much or as little of the theory of midwifery as may enable him to satisfy the examiner for his particular diploma, his knowledge of its practice is usually very limited indeed. If he then passes a year or two in hospital, devoting himself to medicine and surgery, and finally settles in the country, it will not be long before he becomes painfully conscious of his shortcomings, and will be fortunate if his patients and reputation alike do not suffer while he plods through sad experiences to some degree of that expertness which in the other branches of his profession he has been able to learn before entering upon the "splendid isolation" of a country practitioner. For, perhaps, he is miles from help in an emergency, and if he does not get assistance his patient may depart this life, and, if he does, she will very likely on another occasion depart to the opposition doctor.

---

* Difficult Labour: A Guide to its Management for Students and Practitioners. By G. Ernest Herman, M.B. Lond., F.R.C.P.

One would like to prescribe as a remedy that he should carry this book in his bag, but then also his reputation would be likely to suffer if he were seen to refer to it, and so all that can be done is to advise that he shall thoroughly assimilate its contents ; the trouble will not be great and he will be amply repaid. The value of this work to the student is perhaps not so certain as to the practitioner, a few theories help nicely to fill up an examination paper, and after all an examiner is but a man, and if your dogmas happen to clash with one of his pet ideas, you may have cause to wish that your answers had been a little more diffuse. While this book is eminently readable and explicit, it is yet exceedingly concise, and every sentence has its definite value ; it is of convenient size and well printed, and the numerous illustrations, though without any pretensions to artistic effect, still convey clearly the exact impression which the author desires.

The most important alterations in this edition are those made necessary by recent improvements in the technique of Cæsarian section and symphysiotomy, the chapters on which operations are as clear and lucid as the rest of the book. In discussing sterilisation in connection with the former operation the author recommends removal of the body of the uterus ; he says: "Except for child-bearing the uterus is useless, it is liable to disease, and it menstruates, which is a monthly illness." This conclusion may be perfectly correct, but why should menstruation be called a monthly illness any more than defæcation a daily one. The operation of symphysiotomy is advocated in suitable cases, and if done in the subcutaneous manner described should be easy to perform and unattended with danger or troublesome after effects. For dilating the cervix the use of sponge tents is generally advised, followed by Champetier de Ribes bag, the relative merits of which and Barnes' bags are discussed, and the preference given to the former. The author prefers cephalotripsy to cranioclasm, and thinks the cephalotribe the easier instrument to use. When the pains in the first stage of labour are very frequent and painful, but of short duration and producing little effect, the administration of 10 grains of antipyrin every two hours is advised, and has been found to rapidly alter the character of the pain, though this drug has no influence on normal labour. In conclusion, we may confidently advise any medical man who feels any diffidence as to his capacity for satisfactorily confronting cases of difficult labour to study this book thoroughly, and many who have no misgivings on the subject will nevertheless find themselves repaid in its perusal by the acquisition of a clearer knowledge of the causes which produce dystocia, and of the methods of combating it satisfactorily.

DISEASES OF THE EYE.*

THIS book, as stated in the preface, is intended for beginners in Ophthalmology, and for general practitioners. It is written in a very concise and readable manner, contains most of the recent work done in this branch of Surgery, and should become one of the foremost intoductory text-books. In the first section the writer deals with the methods of taking cases and of performing the necessary examination of the eye. Many useful and practical points are emphasised, and lucidly explained: special stress being laid on the value of keeping accurate case-records, and, where possible, sketches of the condition found, so that the progress of the case can be more satisfactorily watched. The importance of this will be readily acknowledged, and the advice is well worth following, as by this means a much more extensive knowledge of the course of the diseases met with will be gained.

The explanation of Skiascopy is clear and easily followed, but is perhaps not sufficiently based on physical facts to be thoroughly understood; and the author's method of performing the shadow-test is certainly more tedious and difficult to manipulate than that usually employed. The ophthalmoscope, also, which he recommends, is not altogether suitable for careful and minute examinations.

The second section of the book is devoted to the diseases affecting the eye, and this part might more advantageously precede the earlier chapters, so that a knowledge of the conditions met with might have been acquired upon which to base the examination of the patient.

The various diseases are accurately, though briefly described, and all the important features of each are carefully brought out. This portion is eminently practical, and on this account no reference is made to the minute anatomy of the eye, and pathology is only very superficially touched upon: hence the interest in the subject is to a large extent lost. In speaking of gonorrhœal ophthalmia the author's advice with respect to treatment seems rather dangerous: he recommends the protection of the sound eye with a Buller's shield only "when the first eye seems likely to be lost;" whereas it is generally recognised that one of the most important points in treatment is to protect from the first the unaffected eye. The chapter on the diseases of the sclera is very brief, and scarcely exhausts all that might have been written on this important subject. Also, in describing the theories as to the casuation of sympathetic ophthalmia, some of the more recent and important experiments have been omitted. The last three chapters include some most useful information: in the first, a list of drugs used in connection with ophthalmic practice is given, and many of the new preparations are mentioned, though nothing is said of the compounds with nucleinis acid, which seems to be of some value. In the second the more important operations are clearly and succintly described, while the last chapter, which to the physician is of paramount importance, enumerates the various general diseases in which eye-symptoms may occur.

---

* Diseases of the Eye. Jackson.

A point which makes the book peculiarly valuable is a bibliography at the end of each section of the publications which have appeared on the various subjects mentioned. And the author is to be congratulated on having epitomised in so small a compass such a wide field of literature.

MODERN SURGERY.

Modern Surgery (second edition), is another of the now familiar American text-books. It is exceedingly well bound and printed, and most profusely illustrated. Amongst these latter are noted many of our old friends, and there are not a few new ones to swell the number. The aim of the author is to provide a text-book for practitioners and students, but in this rôle it certainly will not reach a large circulation in England.

The book is built up on traditional lines, commencing with inflammation, and throughout contains but little original information. A new feature of the treatise is the prominence given to the pathology of surgical conditions, and in this respect the book is perhaps a little in advance of the average English text-book.

The book is of an eminently practical turn, "treatment" being its main stay. On fractures especially, we have much information, but when we are told that after receiving a fracture of the upper extremity the patient can usually walk to the place of treatment, whereas in the case of a fracture of the lower limb walking should be prohibited, we are apt to think that the information is excessive. On the whole, this part of the work is worth reading, as there are several points in the manipulation of fractures not found elsewhere, and which might be useful in the treatment of abnormal cases.

The more advanced branches of surgery are discussed in a somewhat fragmentary manner, and in particular, in the differential diagnosis of abdominal conditions one finds little help. For example, in the diagnosis of gall-stones from cystic kidney, we have to be satisfied with the truism that it is often difficult.

As a book of reference the treatise seems to us to fall far short of one's expectation, and as a text-book for examination purposes it is certainly not to be compared to the works of several English authors..

ATLAS AND EPITOME OF GYNECOLOGY.

INTENDED to hold a place "midway between the quiz-compend and the more pretentious works on Gynecology," and to be especially helpful to those who have not the advantages of a large clinic. The Hand-Atlas of Gynecology aims at teaching mainly by drawings from nature and by means of diagrams.

As a subsidiary to the above, there is a brief systematic account of the subject in addition to the explanatory notes on the illustrations.

The coloured plates, ninety in all, are partly diagrammatic, but the majority claim to be drawn from nature. There are, in addition, fifty or sixty smaller illustrations.

The possibility of teaching a complex subject like Gynecology mainly by pictures is, in our opinion, more than doubtful; and, further, we much question the expediency of any attempt to replace clinical study and the careful consideration of museum specimens by a series of representations, however carefully drawn or artistically coloured.

The general text of the book is too condensed and scrappy to be read with interest, and the account of the etiology of many conditions, especially of the common disorders of menstruation, savours rather of romance than of well-attested fact. The section on treatment, again, is bewildering in the multitude of strange drugs that are recommended—drugs of which the majority of medical men as yet know nothing, and which are still in a stage of probation.

We quite agree with the author that the treatment of Endometritis by atmocausis, or the injection of steam at a temperature of 110°-120° C., through a double-way catheter wrapped in gauze or celluloid, is not suitable for "one unskilled in gynecologic practice," or for employment in ambulatory treatment.

The binding is somewhat insecure, and is incompetent to restrain the migratory propensities of the coloured plates.

---

* Atlas and Epitomé of Gynecology. By Dr. Ostrar Schaeffer. Edited by Richard C. Norris, A.M., M.D. W. B. Saunders and Co., Philadelphia.

THE ASPHYXIAL FACTOR IN ANÆSTHESIA AND OTHER ESSAYS.*

THE writer, an anæsthetist of large experience, has contributed a valuable and thoughtful essay on the Asphyxial Factor in Anæsthesia, and minutely discusses the significance of the behaviour, often subtle, of the respiratory system during narcosis. Rapid, deep, shallow and irregular breathing are first treated of, and then the various pathological conditions which may introduce an asphyxial element, are fully taken up. The author advocates the use of nitrous oxide mixed with oxygen for many of the smaller surgical operations and examinations. There are admirably clear and concise chapters on the administration of ether and chloroform which should be read by every student before he enters on his course of anæsthetics.

New Books, etc., Received.

From W. B. Saunders and Company, London—
  Practical Points in Nursing. By EMILY STONEY.
  Obstetric and Gynæcological Nursing. By EDWARD P. DAVIS, M.D.
  A Text-book of Diseases of the Throat and Nose. By W. BRADEN KYLE, M D. Second Edition.
  The Year Book of Medicine. Edited by GEORGE M. GOULD, M.D.
  The Year Book of Surgery. Edited by GEORGE M. GOULD, M D.
  The Treatment of Fractures. By C. L. SCUDDER, M D.

From James Maclehose and Sons, Glasgow—
  Manual of Diseases of the Ear. By THOMAS BARR, M.D. Third Edition.

From the F. A. Davis Company, Philadelphia—
  Infant Feeding. By LOUIS FISCHER, M.D.

---

* The Ashpyxial Factor in Anæsthesia and other Essays. By Bellamy Gardner, M.R.C.S., Eng., L.R.C.P. London : Baillière, Tindall & Cox.

From Baillière, Tindal and Cox, London—

Harveian Lectures on Pulmonary Tuberculosis. 1900. By ROBERT MAGUIRE, M.D.

From Smith, Elder and Co., London—

An Index of Symptoms. By RALPH WINNINGTON LEFTWICK, M.D. Second Edition.

From Rebman Limited, London—

Laryngeal Phthisis. By RICHARD LAKE, F.R.C.S.

From H. K. Lewis, London—

William Hunter. By R. KINGSTON FOX, M.D.

We have also to acknowledge the following:—

Registrar's Report Middlesex Hospital.

Diphtheria. By DRS. THRUSH AND PORTER.

Report of Council of National Association for Prevention of Consumption.

Cyclic Albuminuria. By DR. F. A. SUTHERTOWN.

Ague or Intermittent Fever. By LT.-COL. MATHEW O'CONNELL, M.D.

General Hospital Annual Report.

Science in the Daily Meal—Fruits, Nuts and Vegetables. By ALBERT BROADBENT.

⁂ Authors can have reprints of articles at the following rates:—

Not exceeding 8 pages	...	8/- per 100
„ 16 „	...	12/6 „

The re-arranging of the type is the principal cost in the production of these reprints, so that smaller numbers will be the same price. Larger numbers at a proportionate reduction.

The Subscription to the *Birmingham Medical Review* is 6s. per annum, post free.

NOTICE.—*All Communications, Exchanges, and Books for review, should be sent direct to the Printers and Publishers Messrs. Hall and English, 36, Union Street, Birmingham.*

THE
BIRMINGHAM MEDICAL REVIEW.
MAY, 1901.

ORIGINAL COMMUNICATIONS.

SURGICAL INTERFERENCE IN DISORDERS OF THE STOMACH.*

BY GEORGE HEATON, M.A., M.B., OXON., F.R C.S.
SURGEON TO THE GENERAL HOSPITAL, AND TO THE
HOSPITAL FOR SICK CHILDREN, BIRMINGHAM.

DURING the past few years special attention has been given by physicians and surgeons to Diseases of the Stomach, and great advances have been made in the diagnosis and treatment of diseases of this organ.

Medicine by a closer study of symptoms, by investigation into the chemical pathology of the organ, and by knowledge gained by distension of the organ, of its size, position, and mobility, is gradually relegating such affections as chronic gastralgia and gastrodynia as diseases per se, to the limbo for our other cloaks of professional ignorance; while by her earlier recognition of certain grave lesions of the organ she renders it possible for surgery to combat them with success.

Surgery during the same period has made great strides, and operations which a bare decade ago were hesitatingly proposed as forlorn hopes, are now performed with a daily increasing frequency and chance of success.

The present communication is not made with any idea of introducing fresh or original matter on the subject, but is rather an attempt to review the present position of surgery in reference to gastric troubles; to point out the indications which justify us in an active surgical interference, and the scope and limitations of that interference.

---

* Delivered before the Birmingham and Midland Counties Branch of the British Medical Association, on March 14th, 1901.

It is based upon a personal experience of some thirteen operations undertaken on the stomach itself, including five operations for the cure of a gastric ulcer actually perforated; four operations of gastro-jejunostomy for pyloric obstruction; two operations for the freeing of the stomach from adhesions; one operation for perforating wound of the stomach; one operation for uncontrollable gastric hæmorrhage.

The Treatment of a perforated gastric ulcer has now become a purely Surgical proceeding, and its success or failure depends at present more upon the interval of time which has elapsed between the perforation and its surgical treatment than upon any other factor.

The first successful recorded case was in 1892, and was performed by a surgeon named Heusner.* Since then between 250 and 300 successful cases have been reported, and the number is increasing almost day by day.

The subject was admirably and exhaustively dealt with by Mr. Barling a few years ago in his Ingleby Lectures delivered at the Mason University College.

Fortunately for both patients and surgeons, though the majority of gastric ulcers occur on the posterior surface of the stomach, these seldom suddenly perforate into the general peritoneal cavity, but usually contract adhesions before leakage takes place. When perforation takes place into the general peritoneal cavity the ulcer is usually found on the anterior surface, though it is often so near the cardiac orifice as to be extremely difficult to reach.

The main symptoms in a typical case are very characteristic. A sudden sharp burning pain is felt in the epigastrium. This is accompanied by all the symptoms of abdominal collapse, and occasionally by vomiting of blood The abdominal wall is retracted and very rigid, respiration is almost entirely thoracic, and there is usually a localised acute tenderness over the seat of perforation, which rapidly extends in area. To these symptoms soon are added those of septic peritonitis.

---

* Finney. *Annals of Surgery*, Pt. 91, p. 1.

The intensity and clinical course of the symptoms will depend chiefly upon the condition of the stomach when perforation took place. If it was empty they may subside, and only be renewed when food is again taken; but if the stomach was distended and much gastric contents escaped most acute peritonitis will quickly be set up.

It cannot be too strongly insisted upon that such symptoms, occurring suddenly in a patient who has suffered from chronic gastric trouble, call for immediate surgical interference if the patient's life is to be saved. The danger of delay, of waiting for events, and the onset of peritonitis, cannot better be illustrated than by comparing the results of early operation for its relief with those of one undertaken when peritonitis has supervened:—

Fenwick. *Ulcer of Stomach*, p. 181. Analysis of 57 cases:

	Mortality.
Operated upon within first 12 hours ...	33 per cent.
Second 12 hours ...	50 „
After lapse of 24 hours ...	86 „

The median exploratory incision seems to be the best. This may be enlarged if necessary by a horizontal incision through the left rectus muscle.

The presence of congestion of the stomach wall or flakes of lymph will usually guide the surgeon towards the ulcer, if it exist on the anterior surface.

If the perforation can be brought into view, it should be closed by inverting its edges and applying two or more rows of Lembert sutures. Excision of the ulcer is rarely practicable and has a considerably higher mortality.

When there has been considerable leakage of stomach contents into the peritoneum, the whole abdominal cavity should be thoroughly irrigated with warm boiled water and sponged dry. The recesses around the liver and kidneys are particularly difficult to thoroughly cleanse. A counter-opening is to be made in the hypogastrium if there is already general peritonitis with effusion. In other cases it is better to drain through the operation wound only.

Perforation of an ulcer on the posterior surface of the stomach is more commonly followed by localised suppuration, and an abscess in such cases sometimes forms between the stomach below the liver above and spleen to the left. Such an abscess has a tendency to enlarge upwards and anteriorly and may form a large subdiaphragmatic collection on the left side.

The following case is a good example :—

Case I.—*Gastric Ulcer. Perforation. Formation of Large Subdiaphragmatic Abscess. Abdominal Section. Recovery.*

F. B., a male, æt. 38, was seen in consultation in May, 1900. He gave the following history :—Eleven years ago he began to have pain after food. The pain was in the epigastrium, was brought on by any solid food, and usually increased in severity until vomiting took place. He has occasionally vomited blood.

Three weeks ago he was suddenly seized with abdominal collapse and vomiting. Since then his temperature has ranged from 99°–102° ; he has had profuse sweats, cough, and pain in the left side and repeated vomiting.

He was admitted into hospital.

On admission he was a thin, pale man. Temperature 101. Pulse 104. The upper half of the abdomen was occupied by a hard inflamed acutely tender swelling, which extended further on the right side than on the left. Peritoneal friction sounds were plainly audible below it.

His leucocyte count was 15,280 per c.mm.

Abdominal section was performed, and a localised abscess opened situated between the left lobe of the liver and the stomach. The pus examined was thick, grumous, strongly acid in reaction, and mixed with some gas. The cavity was irrigated and drained.

THE TEST OF TIME AND EXPERIENCE.

THIRTY YEARS OF CONFIDENCE
on the part of the Profession have established, beyond all question that

SYR. HYPOPHOS. CO. FELLOWS

is the

REMEDY—PAR EXCELLENCE—

in Anæmia, Neurasthenia, Bronchitis, and Influenza, and during Convalescence from exhausting diseases.

It contains—Hypophosphites of Iron, Quinine, Strychnine, Lime, Manganese, and Potash.
Each fluid drachm contains the equivalent of 1-64th grain of pure Strychnine.

SPECIAL NOTE.—Fellows' Syrup of Hypophosphites is NEVER SOLD IN BULK, and is advertised only to the Medical Profession. Physicians are cautioned against worthless substitutes.

Medical Letters may be addressed to—

Mr. FELLOWS, 94, Paul Street, Finsbury, London, E.C.

LITERATURE OF VALUE WILL BE SENT ON APPLICATION.

Atonic Dyspepsia.

Infantile Diarrhœa.

Morning Sickness.

LACTOPEPTINE

is a combination of all the digestive agents and is superior to Pepsin alone; it gives tone to the stomach and re-establishes suspended function.

Dose: 10–15 grs.

FORMULA:

Sugar of Milk	40 ounces.
Pepsin (Pure)	8 ,,
Pancreatine (Pure)	6 ,,
Veg. Ptyalin or Diastase ...	4 drachms.
Lactic Acid	5 fl ,,
Hydrochloric Acid	5 fl. ,,

PRESCRIBED

in all abnormal conditions of the Digestive Tract: in indigestion, loss of appetite, Chronic Diarrhœa, impoverished blood, &c.

Marketed in 5-gr. Tablets and Powdered Form : In 1-oz., 4-oz., and 8-oz. bottles, prices respectively for dispensing purposes 3/5, 10/9, 20/10 post free.

JOHN MORGAN RICHARDS, 46, Holborn Viaduct, London.

All his acute symptoms rapidly subsided. The leucocyte count had reached the normal on the tenth day. He still had considerable pain after food, but quickly began to put on flesh, and was discharged from hospital on June 10th, with his sinus healed, and weighing more than a stone heavier than on admission.

He went on well until October, 1900, when he again commenced to vomit after food. After the attack of vomiting, he suddenly felt something give way and had an intense burning pain in the epigastrium. Symptoms of peritonitis of the upper half of the abdomen quickly supervened and continued until his admission to hospital.

On admission, he had well-marked physical signs of a collection of fluid beneath the left half of the diaphragm. The left lung was pushed up in front as high as the 4th intercostal space, and there was a dull bulging area below it extending almost down to the umbilicus. There was great dyspnœa and cardiac distress.

A median abdominal incision was made and an intraperitoneal abscess cavity opened, containing 1½ pints of pus. The cavity passed backwards below the left half of the diaphragm. The spleen could be felt at its left extremity and the left lobe of the liver towards the right. The stomach could be felt below, but no opening into it could be detected.

He made a slow but uninterrupted recovery and was discharged in December, 1900, with a short sinus still discharging a few drops of pus daily. He has remained quite well since.

Case II.—*Perforated Gastric Ulcer. Abdominal Section and Suture. Temporary improvement. Death after one month from Liver Abscess and right-sided Empyema.*

H. H., a housewife, æt. 26, was admitted on January 26, 1901, suffering from peritonitis and extreme abdominal distension.

History of illness.—Thirty-six hours before admission she was taken ill suddenly with acute pain in the epigastrium, half an hour after taking food. She vomited once. The pain was of a burning character, and radiated all over the abdomen. Bowels not open since the attack began. The abdomen was at first much retracted, but has since become much distended. Has taken nothing by the mouth since the beginning of her illness.

Previous illness.—During the last four years she has suffered from severe indigestion, with vomiting. The vomiting relieved the pain. Has never vomited any blood.

Condition on admission. — In great distress. Pulse 120. Temperature 99·4. The abdomen is greatly distended, and tympanitic all over. There is no liver dulness to be detected. The abdominal walls are tense, rigid, and extremely tender. Respiration entirely thoracic.

A diagnosis of ruptured gastric ulcer was made, and abdominal section performed as soon as possible.

A median incision was made above the umbilicus. On opening the peritoneum there was a gush of sour smelling gas, and the abdominal walls became relaxed. The opening was enlarged by a horizontal incision carried through the left rectus muscle.

The front surface of the stomach and liver were covered with recent lymph. On removing this and drawing the stomach down into the wound, a perforation about the size of a threepenny piece was found on its anterior surface, near the cardia, and rather nearer the greater curvature than the less. Its margins were sloughy, and the surrounding tissue very indurated.

Considerable difficulty was experienced in closing the opening with sutures, owing to the indurated and friable condition of the stomach wall around. It was eventually securely closed with a double row of Lembert sutures. The peritoneal cavity was cleansed by sponging it. Iodoform gauze packing was left in the wound, passing down to the sutures, and a drainage tube was passed into the splenic region. The rest of the abdominal wound was closed.

She vomited once after the anæsthetic, and slept but little that night. Next morning, January 29th, she expressed herself as feeling much better. Hiccough was a troublesome symptom. She was fed entirely per rectum during the next five days. The pus discharged through the abdominal tube had a peculiar "gastric" smell and an irritating effect on the skin. On the fifth day a little egg albumen and water was allowed by the mouth. For the next few days she progressed extremely satisfactorily. Her temperature gradually reached the normal, her pain and tenderness entirely disappeared, there was no vomiting, the bowels were open naturally, and everything pointed to a satisfactory convalescence.

On the eleventh day, however, her temperature began to rise, and though she had no pain and expressed herself as feeling very well, she did not look so well. From this date onward her temperature began to rise, and her pulse increased in frequency. Some fulness appeared in the right hypochondrium, and dulness with absence of breath sounds and vocal resonance appeared at the base of the right lung. A diagnosis of right sided empyema or subdiphragmatic abscess was made; and repeated explorations were made with a syringe both above and below the diaphragm to detect pus, but unsuccessfully.

On February 15th an anæsthetic was again administered. The abdominal wound was explored, but no pus was found.

She gradually became worse, her breathing more laboured, her pulse more feeble and rapid, and sank on February 22nd—twenty-four days after the first operation, and twenty-six days after the actual perforation.

At the autopsy, a large collection of pus was found shut off at the upper and anterior part of the right pleural cavity, and a considerable excess of clear serum in the pericardial and left pleural cavities. There was no general peritonitis, but there were three distinct small collections of pus in the abdomen—one between the right lobe of the liver and the under-surface of the diaphragm, a second between the spleen and the diaphragm on the left side, and a third small one close to the sigmoid flexure. There was also a small abscess in the substance of the liver, which communicated directly with the subdiaphragmatic abscess in the right side, and through it, by means of a small perforation in the diaphragm, with the right pleural cavity.

Case III.—*Slight Leakage from a Gastric Ulcer with Left-sided Pleurisy, followed after an interval of several weeks by Acute General Peritonitis and Death.*

N. B., a single young woman, æt. 26, was admitted into hospital on January 26th, 1901, with the following history:—On January 26th, whilst walking from home to the station an hour and a half after breakfast, she felt a stitch in the left side. During her journey by train to Birmingham this pain increased. On getting to Birmingham three hours afterwards she was given some brandy, which she immediately vomited. She then walked from the station to the hospital, and was admitted.

Previous History.—She has always enjoyed good health, except some two years ago, when she had an attack of indigestion. She has also suffered from some pain after food for the last two months. Has never vomited any blood.

Condition on Admission.—On admission the patient was somewhat collapsed, with cold extremities and a feeble pulse. She complained of much pain in the left hypochondrium. The pain was increased by any deep respiratory movement. Her temperature was 97·2. Pulse 96. When seen two hours after admission her collapse had entirely disappeared. Pain was complained of across the umbilicus, and there was very little abdominal respiratory movement. There was no abdominal distension, and the liver dulness was normal.

It was decided that her symptoms were not sufficiently severe to justify an abdominal exploration. Hot fomentations were applied to the abdomen and she was given a purgative enema.

The next day, Jan. 27th, she was much better, but still had some pain in the left side of the chest and abdomen, temp. 101.6, pulse 112. For the next few days she improved, all her abdominal pain disappeared and her temperature gradually fell to normal on February 1st. After this date she was allowed small quantities of liquid nourishment by the mouth. Friction sounds during all this period could be distinctly heard over the base of the left lung both in front and behind.

From Feb. 1st to Feb. 8th she steadily improved, though the physical signs of a left-sided pleurisy still remained. From this date in 13 days after her primary seizure, her temperature began gradually to rise and the signs of pleurisy in the left side to be more marked. She took liquid nourishment during all this time without any pain or feeling of sickness.

On the morning of Feb. 17th, at 4.0 a.m, she had a violent rigor during which her temperature rose to 106°. Dulness with weak breath sounds now made their appearance on the right side in addition to the left. The next morning she had acute abdominal pain and symptoms of a rapidly extending peritonitis of the upper half of the abdomen. Abdominal section was decided upon and performed that day. A median incision was made above the umbilicus, a most acute general peritonitis was found matting stomach, liver, and omentum together. The anterior wall of the stomach was firmly adherent to the anterior abdominal wall and the under surface of the rib cartilages, it was acutely inflamed all over. A small abscess cavity containing some thick pus was tapped close to the pylorus. This was carefully drained and the rest of the abdominal wound was closed. The peritonitis, however, spread unchecked, and she died on February 20th. Only a very limited *post-mortem* examination was made.

There was a small perforation in the anterior wall of the stomach where it lay in contact with the costal arch. There was acute general peritonitis with localised abscesses in various parts. The left pleural cavity contained a quantity of turbid serum.

Tinker *(Phil. Med. Journ.*, Feb. 3rd, 1900), reports 232 such operations for perforated gastric ulcer up to the end of 1899, and Fenny (*Annals of Surgery*, 91), has brought this number up to 268. Of these cases, 129 died, while 139 recovered, giving a mortality of 48 per cent. If statistics of operations performed during the last few years be alone considered, this mortality will be found to have sunk as low as 35 per cent., and will probably still further decrease as our operative technique improves.

Gastric Hæmorrhage.—The actual frequency with which hæmorrhage from a gastic ulcer is directly responsible for the fatal issue is difficult to determine. Though occurring probably in 60 or 70 per cent. of all cases of ulcer, hæmorrhage does not actually destroy life in more than 3 or 4 per cent. of the cases.

From an analysis of 298 *post-mortems* in fatal cases of gastric ulcer at the London Hospital, Fenwick found hæmorrhage to have been the direct cause of death in 56, or in 18·80 per cent.

Hæmatemesis, when due to ulcer, in the great majority of cases, yields to a purely medical treatment—complete functional rest of the organ being perhaps the most important therapeutic measure.

The alarming cases of hæmorrhage seem to occur chiefly under two distinct conditions. Firstly the so-called cases of acute gastric ulcer, where the process of ulceration is extending rapidly, and where all the symptoms—the pain, the tenderness, and the vomiting—are all urgent and well marked. And secondly in certain old-standing chronic ulcers, in which without any warning the patient has repeated attacks of profuse hæmatemesis. In this second class of case the ulcer will usually be found to have involved some large gastric vessel, or to have invaded by direct extension some vascular organ such as the liver or pancreas.

The first class of patients are seldom, if ever, in a condition in which any surgical operation can be undertaken with a reasonable prospect of success. It is only where the chronic ulcer has invaded some large vessel that we may hope to do much by surgery.

Even here the difficulties to be surmounted are enormous. The condition of the patient after repeated severe hæmorrhages is usually such as to preclude any prolonged search and manipulation of the organ. The ulcer itself when small frequently gives no evidence of its existence and whereabouts on the external surface of the organ. In such a case it will be necessary to open the organ to search for the ulcer, a task of almost insuperable difficulty if it be situated towards the cardia. Unlike perforating ulcers of the stomach, which are found with the greatest frequency on its anterior surface, Brinton has shown that in cases of fatal hæmatemesis the ulcer in 48 per cent. of the cases occupies the lesser curvature, in 34 per cent. the posterior surface, and the anterior surface in only 4 per cent. of the cases.

Still, despite all difficulties, the surgical arrest of such hæmorrhage has been attempted, and attempted successfully, on several occasions. Rydygier, in 1882, was the first to advocate, and since then it has been done successfully by Mickuliez, Roux, and others.

Bidwell (*Amer. Jour. Med. Sc.*, 1899, p. 259) has collected twenty-one such cases, with eight recoveries and thirteen deaths giving a mortality of 61·9 per cent.

The choice of operation lies between excision of the ulcer and suture, the application of purse string round the ulcer, and gastro-jejunostomy. Excision has a very high mortality, and is rarely practicable, while gastro-jejunostomy aims at giving complete rest to the ulcer if seated near the pylorus.

I have only once operated for repeated hæmatemesis from a gastric ulcer. The patient was a young man, aged 28, who whilst in bed under medicinal treatment had repeated profuse attacks of hæmatemesis. Three weeks before the operation, after a severe attack, the question of operation was raised, but was declined by the patient. After two more severe attacks he willingly consented, but his condition then was almost hopeless.

The stomach was opened anteriorly near the pylorus; a large deep ulcer was found bleeding at the time. A purse string suture was placed round it. After closing the pyloric end of the stomach an anterior gastro-jejunostomy was performed to divert the food from the ulcerating surface. He lived four days, and sank from exhaustion. At the *post-mortem* the hæmorrhage was found to have come from an ulcerated opening in the vein accompanying the pyloric branch of the hepatic artery.

It cannot be said that at present the results obtained in the surgical treatment of severe gastric hæmorrhage have been very encouraging. But in the near future, by earlier operation and improved technique, we may perhaps achieve the same success in this complication as attends treatment of gastric perforation at the present time.

Dilatation of the stomach depends upon a want of proper balance between the propulsive power of the stomach walls and the resistance against which its contents have to be forced. It may thus arise in two ways. Either the muscular wall of the stomach is so weakened that it is no longer capable of forcing the contents of the organ through a normal pylorus, or there is some increased obstruction at the pylorus.

For the first condition, where there is atony and weakening of the stomach walls, without increased obstruction, surgery can do little or nothing. The treatment can only be directed towards improving the condition and muscular tone. But when dilatation is due to some organic obstruction at the pylorus, and the organ is incapable of completely emptying itself owing to the increased resistance, surgery may do much to alleviate, or in some cases to cure, the patient's symptoms.

Pyloric obstruction may be due to a variety of causes. The chief amongst them are the following :—

Malignant growth of the stomach, invading the pylorus and growing into its lumen, or constricting it by the contraction of its newly-formed fibrous tissue.

The contraction of the newly-formed scar-tissue left by an old healed ulcer.

An unhealed ulcer setting up an irritative spasm of the pyloric sphincter.

Benign growth of the pylorus. (Very rare.)

Adhesions and matting of the pyloric end of the stomach, binding it down to neighbouring structures.

An Assurance that means something.

In the digestion of fat, Nature makes a certain amount of glycerine. There must be a special object in view. What is this object?

We believe the most important use of this glycerine is to prevent fermentation, and thus avert the danger from the absorption of poisonous toxines or ferments caused by fermentation. We all know the dangers in fermentation and imperfect digestion of food.

The glycerine in Scott's Emulsion has therefore a special significance, aside from its value in sweetening and preserving the cod-liver oil. It is in accord with the processes of Nature, and in many ways it facilitates the absorption of the oil.

The hypophosphites of lime and soda, and the cod-liver oil itself, need no comment. They are always associated with the name Scott's Emulsion.

When Scott's Emulsion is prescribed by the medical profession, therefore, there goes with it an assurance of safety and merit that means something.

SCOTT & BOWNE, Ltd., Manufacturing Chemists, London, E.C.

The Natural Mineral Waters of

VICHY

(STATE SPRINGS.)

CÉLESTINS. For Diseases of the Kidneys, Gravel, Gout, Rheumatism, Diabetes, etc.

GRANDE-GRILLE. For Diseases of the Liver and Biliary Organs, etc.

HÔPITAL. For Stomach Complaints.

VICHY-ÉTAT PASTILLES.
2 or 3 Pastilles after each meal facilitate digestion.

VICHY-ÉTAT COMPRIMÉS.
For instantaneously producing an effervescing alkaline water.

Samples and Pamphlets free to Members of the Medical Profession on application.

CAUTION.—Each Bottle from the State Springs bears a neck label with the words "VICHY-ÉTAT" and the name of the

SOLE AGENTS—

INGRAM & ROYLE, Ltd.,
EAST PAUL'S WHARF,
26, UPPER THAMES ST., LONDON, E.C.
And at LIVERPOOL and Bath Bridge, BRISTOL.

Into the pathology and symptoms of gastric dilatation it would be out of my province to enter. It will be sufficient to mention that a vicious circle is soon set up. The retained food undergoing fermentative changes distends the stomach walls and weakens them, and so renders them less capable of forcing their contents through the narrowed orifice. There is thus soon added a motor insufficiency of the stomach wall to the pyloric obstruction.

For the surgical relief of gastric dilatation where milder measures have been tried and failed, we have the choice of

Divulsion of the Pylorous or Loretas operation.
or Pyloroplasty.
or Gastro-enterostomy.

Pylorectomy is performed on a somewhat extensive scale on the Continent for the relief of non-malignant obstructions. It is certainly a most radical method of cure, but its high mortality would seem at present to forbid its general adoption in our own country.

Divulsion of the Pylorus or Loretas operation, in which the stomach cavity is opened near the pylorus, and the stricture is forcibly dilated, has of late years fallen out of vogue. Its mortality is somewhat higher than either of the other two alternatives, and the stricture when so dilated shows a greater tendency to contract again. The operation is, of course, out of the question in cases where the stenosis is due to malignant disease, and has generally been superseded by one or other of the two newer operations, pyloroplasty and gastro-jejunostomy. When stenosis of the pylorus is due to cicatricial contraction we have the choice of two operations, pyloroplasty and gastro-jejunostomy.

In *Pyloroplasty* an incision is made in the long axis of the strictured pylorus through all its coats. The wound thus made is dilated in the transverse axis of the pylorus, and the edges are so united as to bring the long axis of the resulting scar at right angles to the pyloric axis.

In *Gastro-jejunostomy* a loop of the upper part of the jejunum is brought up and fixed to either the anterior or posterior wall of the stomach, and an artificial communication established between the two by means of one of the methods of intestinal anastomosis.

154 cases of pyloroplasty have been collected by Kammerer (*Annals of Surgery*, July, 1900), from statistics published by various surgeons. The mortality among these operations was 15 per cent.: while of 149 cases of gastro-jejunostomy collected by the same author the mortality was 17·5 per cent

The surgeon must be guided by the condition found upon opening the abdomen. If there be found, as frequently is the case, in addition to the stricture of the coats of the pylorus, a number of dense adhesions binding the parts and matting them all together, gastro-jejunostomy will probably give a better and more permanent relief. On the other hand, pyloroplasty seems an ideal operation for a simple uncomplicated pyloric stricture due to scarring of its internal surface.

With regard to the operation of gastro-jejunostomy I have hitherto myself always used Murphy's button for making the anastomosis, and have fixed the intestine to the anterior wall of the stomach. The time occupied in making the anastomosis, and consequently the shock of the operation, is considerably less when the button is employed, and there seems less risk of the opening thus made undergoing contraction afterwards.

The chief objections to the operation are that the loop of jejunum thus fixed may become kinked; that the line of union may leak; and that the button is in a number of cases retained indefinitely.

With regard to the risk of leakage, I do not think that the risk is greater after using the button than after any of the other methods of anastomosis.

Kinking of the jejunal loop has certainly occurred in some of the recorded cases, and has occasionally proved fatal. It would seem to take place, if one may judge from recorded cases, more frequently after anastomosis by simple suture, than after the use of a Murphy button.

To prevent the risk of kinking of the intestinal loop, and to favour the exit of food from the stomach, Doyen and most of the other Continental surgeons have adopted Von Haecker's method of gastro-enterostomy, and make the union between the jejunum and the posterior surface of the stomach—in fact a posterior gastro-jejunostomy.

The opening is certainly more dependent, the jejunum is less displaced from its normal position, and consequently there is less risk of the kinking of the loop. On the other hand, the operation is a more difficult one, involves much more exposure of the stomach colon and jejunum, and has consequently a higher mortality; and Mickuliez has, after a considerable experience of it, returned to the anterior operation.

The button in a certain percentage of cases is retained. When this occurs it has usually dropped into the stomach instead of into the intestine. Fortunately, as a rule, it does no harm, and I have at present a patient who still retains her Murphy's button in her stomach though the operation was done more than two years ago.

The operation of gastro-enterostomy has been greatly improved during the last ten years. The late Mr. Greig Smith estimated its mortality at 30 per cent. Mickuliez has recently recorded 68 cases, with a death-rate of 16 per cent.; and Doyen has reported 21 successful cases. Its mortality may be reckoned about 14 or 15 per cent. at the present time.

Case IV.—*Pyloric Stenosis from Tumour. Gastric Dilatation. Gastro-jejunostomy. Cure.*

A. R., æt. 42, a patient of Dr. Harman-Brown, was sent to me in November, 1898, for a tumour in the epigastrium with pyloric obstruction.

Her gastric symptoms were of two years' duration. They consisted of pain and fulness in the epigastrium, always worse after taking solid food, the occasional vomiting of large quantities of food, and much emaciation. She had at the commencement of her illness, several times brought up small quantities of blood.

On admission she weighed 6 stone 9 lbs. The dilated and distended stomach could be easily palpated through the thin abdominal wall. Midway between the ensiform cartilage and the umbilicus a hard, ill defined tumour could be felt slightly to the right of the middle line. On distending the stomach. the viscus overlapped the tumour, so that it could no longer be felt.

While at rest in bed in hospital, and given a fluid diet, her symptoms much improved. But whenever solid food in any form was given, the pain and vomiting returned.

On November 25th an exploratory operation was performed. The abdomen was opened in the left *linea semilunaris.* The stomach was found much dilated, and its walls thinned. A hard mass was felt in the region of the pylorus surrounded by adhesions fixing it to the omentum and liver. It had the feel and appearance of a hard carcinoma of the pylorus.

Gastro-jejunostomy was decided upon as a palliative measure. A loop of the jejunum was brought up and fixed to the anterior wall of the stomach near its greater curvature by a No. 2 Murphy's button. The union was strengthened by a number of Lembert silk sutures fixing the intestine to the stomach wall and preventing kinking of the loop. The abdomen was then closed.

There was a good deal of shock for the first twelve hours after the operation, and she vomited once some bilious vomit. The next day she was comfortable and made an uninterrupted recovery. She was fed entirely per rectum for the first three days, and then small quantities of fluid nourishment were allowed by mouth. Solid food was allowed on the 10th day. The Murphy's button was retained. By means of the Rontgen rays it was seen on December 5th in the right iliac region, presumably at the ileocæcal valve.

The patient has been kept continuously under observation since and was shown at the meeting. She has gained 1½ stone n weight and remains in perfect health, being able to take any kind of food and free from all digestive troubles. Weight at present 7 stone 11 pounds. Can eat anything. No pain after food. No trouble from button. Bowels open regularly. At work in the House.

Operation upon the stomach may be called for by two other of the complications or sequelæ of gastric ulcer.

The first is that of *Hour-glass Stomach.*—Hour-glass stomach may be caused by old dense cicatricial bands, the result of a perigastritis due to the direct extension of inflammation from an ulcer beneath. These bands may firmly bind down the stomach to neighbouring organs, such as the liver or colon, and produce a constriction between the halves of the stomach on either side. It is usually, however, caused by actual contraction of the scar tissue left in the gastric wall by a healed or healing ulcer.

In either case a train of digestive disturbances is set up which only active surgical measures can alleviate. The symptoms in the recorded cases have resembled closely those of pyloric stenosis, but the diagnosis in a well-marked case may usually be made by distending the stomach, when the peculiar hour-glass shape of the organ becomes apparent.

The treatment in the few recorded cases has either been some form of plastic operation on the stricture itself, having for its aim the enlargement of the opening between the two halves of the stomach, an artificial anastamosis between the two halves, or a gastro enterostomy between the proximal or cardiac half of the stomach and the small intestine.

Watson (*Annals of Surgery*, July, 1900) has collected altogether twenty-nine cases, in which an operation was performed, with seven deaths, giving a mortality of 24 per cent. In the successful cases the patients seem to have been freed from all their former symptoms.

The second complication which I wish to refer to is an interference with the free movements or the stomach, or of the outflow of its contents through the pylorus, due to adhesions binding it to the abdominal wall, intestines, liver, or other neighbouring structure. These adhesions are usually the result of a perigastritis from direct extension from an ulcer. In many cases doubtless they give rise to no symptoms. They may be most extensive, or consist of merely one or two fibrous cords. They are most likely to cause trouble when present at or near the pylorus, and do so probably by producing a kink near that sphincter.

The exact condition present can usually only be determined by an exploratory incision. If the adhesions consist of one or two fibrous bands the operation is one of extreme simplicity, but where they are very extensive, or where the old site of the heated ulcer is firmly fixed to some vascular organ, such as the liver, it may become a great difficulty. The raw surfaces thus exposed must be covered with a serous or flap raised from the omentum to prevent adhesions reforming,

I have operated upon two such cases. In one the disunion of a band which fixed the pylorus to the hepatic flexure was an extremely simple proceeding and effectually cured the patient. In the second case the adhesions were due to an ulcer which had some years before actually perforated and discharged itself through the anterior abdominal wall. The patient was immensely reduced for a considerable time, but fresh adhesions have formed and reproduced many of her old troubles.

Case V.—*Gastroptosis and Gastric Dilatation, due to adhesions following Perforation of a Gastric Ulcer. Abdominal Section. Separation of adhesions. Pylorus anchored to abdominal wall. Recovery.*

E. G., a young married woman, aged 35, was admitted into the General Hospital on December 7th, 1898, with the following history:—

Eleven years ago she began to suffer from pain after taking food, and occasional vomiting. The act of vomiting relieved the pain, and was frequently repeated. She had occasional attacks of hæmatemesis, brought on by the ingestion of solid food. These symptoms continued for several years. Three years ago she was suddenly seized with violent abdominal collapse, followed by acute peritonitis. The medical man in attendance diagnosed perforation of a gastric ulcer. Three weeks later an abscess formed below the umbilicus. This was opened, and a quantity of pus and gas escaped. A sinus formed, which discharged pus and acid gastric contents for some months.

Since then she has suffered from pain after food and occasional vomiting. She has been under medical treatment for indigestion almost continuously since to the present time, having occasionally to remain in bed for several weeks and live on liquid foods.

P.C. on admission.—A thin spare woman, of neurotic temperament. An examination of the abdomen reveals a depressed scar, two inches below the umbilicus and slightly to the right of the median line.

On distension of the stomach it formed a tumour passing from the left hypochondrium downwards and to the right and reaching to within 3 inches of the pubic symphysis. It was much dilated but its contents when tested always showed the presence of free hydrochloric acid.

Whilst in hospital she occasionally vomited, bringing up a very large quantity of partially digested food. Her other organs were apparently healthy. She remained as an in-patient for a fortnight during which time she was carefully dieted, and was discharged considerably relieved.

She was re-admitted in January, 1900, with an exacerbation of all her symptoms. The epigastric tenderness had much increased and the vomiting was more frequent.

On January 27th, 1900, abdominal section was performed. A median incision was made and the stomach exposed. The whole organ was found drawn downwards by dense adhesions binding the pylorus to the anterior abdominal wall. A band of dense fibrous tissue passed from the under surface of the scar in the abdominal wall to a depression on the anterior surface of the stomach near the pylorus. This was ligatured and divided. Many other adhesions binding the anterior surface of the stomach to the abdominal parietes were also separated. The stomach thus freed was brought again to the epigastric region.

It was dilated and its walls considerably thickened by chronic inflammatory tissue. Two silk sutures were passed through its muscular and serous coats near the pylorus and then through the parietal peritoneum in the upper angle of the abdominal incision. The pylorus being thus anchored; the abdominal wound was closed.

Her after progress was uneventful. She suffered from considerable shock for the first twelve hours after the operation, but rallied after hypodermic injections of strychnine. Rectal feeding was discontinued on the fourth day, and the patient was allowed small quantities of fluids by mouth. During convalescence, in order if possible to prevent the formation of fresh adhesions, the stomach was from time to time distended by tartaric acid and bicarbonate of soda, given separately. She was discharged in February, with her symptoms much improved. She remained in perfect health for several months, when she had a return of some of her former troubles. She has been seen from time to time, and though considerably improved, yet suffers considerably at times from gastric disturbance. The stomach remains where it was put, but is still considerably dilated.

Carcinoma of the Stomach.—In discussing the Surgery of Cancer of the Stomach my remarks will be confined to the treatment of those cases where the carcinoma has involved the pylorus at its immediate neighbourhood. These constitute the large majority of cases of gastric carcinoma.

Complete gastrectomy has up to the present been performed so few times that any conclusions drawn from the few recorded cases would be of little or no value.

The operation of pylorectomy—meaning by that operation the complete removal of the pylorus, with adjacent parts of the stomach and duodenum—as a radical method of cure for pyloric cancer was first performed by Pean, in 1881. Owing to the high death-rate attending it, and to the almost invariable rapid recurrence of the disease in those who survived the operation itself, it was an operation which, as short a time ago as in

1890, was looked at askance by the majority of English and American surgeons.

During the past ten years the mortality due to the operation itself has been reduced by half, and the prospect of immunity from recurrence been greatly increased.

These improvements have been due in the main to three causes.

Firstly.—Exploratory abdominal incisions have become much commoner in obscure gastric affections. By their means cases of carcinoma are sometimes diagnosed in a very early stage, before adhesions have formed, or lymphatic infection has taken place.

Secondly.—The technique of the operation has been much improved, and surgeons have gained greater skill with their experience of such operations.

And thirdly.—Operators have exercised a greater discretion in selection of cases for the radical operation.

These points are borne out in the following statistics:—

I.—The Mortality of the operation itself:

Haberkant (*Arch. f. Klin. Chir.*, 1896, Lt., p. 434), in an analysis of 257 cases of Pylorectomy divides them into two periods:

a. Period 1881—1887 case mortality ... 64·4 per cent.
b. „ 1877—1894 „ ... 42·8 „

Goffe, in "Barker's Lectures on Surgical Affections of the Stomach," 1898, collected the English and American cases of pylorectomy:

In 1882—1890 the mortality was 76·5 per cent.
„ 1890—1898 „ 28·6 „

Probably the mortality is still higher than the above figures would show, as so many unsuccessful cases are not recorded by individual operators.

As showing the more judicious selection of cases, Czerny (*Berliner, Klin. Woch.*, 1897, No. 34):

In 1881—1893 performed 19 pylorectomies and only 20 gastro-enterostomies.

In 1893—1897 performed only 10 pylorectomies and 70 gastro-enterostomies.

The radical operation in the last series of cases being thought to be impracticable in the majority of the cases.

Here again, statistics would show a great improvement in the prognosis, though it cannot be said even now that the prospect is by any means a bright one.

*Kocher has performed the operation 57 times with a mortality of 8.7 per cent. of these cases.

1 was alive and free from recurrence 10 years after.
1 " " " 5 "
1 " " " 3 "
1 " " " 2 "

Four others had died of other causes more than 3 years after this operation. The others had either died of recurrence or had not yet reached the 2 years' limit.

*Maydl has performed the operation 25 times with a mortality of 16 per cent. Fourteen of these patients were alive at the date of the report, and seven of these more than 2 years after the date of the radical operation, namely:

1 8½ years after.
1 5½ "
1 4 "
2 3 "
2 2 "

The modification introduced some years ago of completely closing the pyloric end of the stomach and the cut end of the duodenum, and of making a lateral anastomosis between either the duodenum or the jejunum, has a considerably lower mortality than the old operation, and is now usually followed by Kocher and Doyen.

It was proposed in 1891 by Tupolske to perform the operation in two stages—a gastro-jejunostomy being first performed,

---

* Quoted from Mayo Robson Hunterian Lectures, *Brit. Med. Journal*, March 24th, 1900.

and then when the patient has recovered an excision of the pylorus being done.

This method has been followed by Czerny, Franke, Hahue, Barker, and Doyen, and has yielded most satisfacrory results.

The mortality of the operation of pylorectomy itself may be put down as about 30–35 per cent. Mayo Robson collected a series of 572 cases, with 174 deaths, giving a mortality of 30·4 per cent. When adhesions are at all extensive the mortality rises, as has been shown by Haberkant's statistics, as high as 72·7 per cent.

But, apart from the direct mortality due to the operation itself, we have to consider what period of immunity from recurrence the operation, when successful, holds out to the patient.

But though surgery in the majority of these cases can do but little to cure this most distressing malady, she can do much to palliate the patient's sufferings and to render life tolerable until death ends the scene.

Much of the agony of gastric cancer is due to the obstruction which the growth presents to the free exit of the stomach contents through the pylorus, and also to the gastritis set up by the retained food and breaking down portions of the growth and its discharges. Some of it is also due to the direct irritation of the growth by the ingested food.

A gastro-jejunostomy performed early in the disease, before the patient's strength is getting exhausted, will do much to mitigate these sufferings.

The artificial opening is a dependent one when the patient is erect, and effectually drains the stomach. Food when swallowed is no longer retained in the organ, but is carried away early into the jejunum. The growth itself, if the opening be made well away from the pylorus, is much less irritated by food; and at the same time all the symptoms which are due to the actual obstruction at the pylorus are secured.

Inguinal colotomy for inoperable rectal carcinoma, gastrostomy for cancer of the œsophagus, are both palliative operations for prolonging life and easing the patient of his pain, and both admirably serve their purpose. Up till recently the mortality after the operation of gastro-enterstomy was as high as 36 per cent., but gastrostomy had for many years a very much higher mortality, the reason being the same.

In both cases that the operation was so frequently postponed until it was too-late—the patient's power of resistance being too feeble. But I look forward to the time when gastro-enterostomy will be the recognised method of treatment of all cases of pyloric cancer not amenable to complete removal.

The surgery of the stomach is still in its infancy. The mortality of most stomach operations is still a high one, higher than it ought to be—higher than it will be when the conditions calling for surgical interference are more clearly and more early recognised, and when our operative technique is improved.

As long as operations such as gastro-jejunostomy or pyloroplasty are attended by a mortality of 15 or 20 per cent., physicians will hesitate to advise and surgeons to perform them, save as *dernier ressorts* when all else has failed. But when once it becomes recognised that such operations if only performed sufficiently early are attended with but small risk to life, we may see exploratory operations for the relief of rebellious gastric disorders as much the rule as they are now the exception.

UNGUENTUM RANUNCULI FICARIÆ.

BY SIR JAMES SAWYER, M.D. LOND., F.R.C.P.,
SENIOR CONSULTING PHYSICIAN TO THE QUEEN'S HOSPITAL.

I DESIRE now to publish a formula which I have designed for a certain non-officinal preparation. This preparation I have used for many years past, and I am using it now, with much success in practice. While many cases of hemorrhoids are distinctly surgical in nature, management, and cure, and are not rightly and not usually included within the scope of a physician's practice, there are many morbid conditions, of what may be called a hemorrhoidaloid character, affecting the anal margins, with which the practical physician has to deal in his daily work, as troublesome incidents in the course of other greater or more general maladies, and he is often even called upon to relieve by medicinal means, and without the invitation of surgical measures, hemorrhoids which are distinct tumours within or without the anal aperture, and which tumours, for various and sufficient reasons in particular cases, are not submitted to the surgical cures of the knife, the ligature, or the cautery. In such cases various ointments, of officinal or of magistral formulæ, are usually used, with more or with less success, as local applications to the affected parts. Of the ointments I have used in such cases, I have mostly used for several years, and as I have found with prosperous therapeutic results, one made from the plant ranunculus ficaria. Of course, we all know, if we be sound therapeutists, that the use of any topical applications, in the treatment of piles and local hemorrhoidal conditions, is only supplementary to the relief or cure of the well-known constitutional conditions and visceral obstructions which occasion the disease. As Erichsen rightly taught: "In conducting the treatment of a case of piles, that surgeon will succeed best who looks upon the disease not as a local affection, merely requiring manual interference, but as a symptom, or rather an effect, of remote visceral obstruction and disease, the removal of which may alone be sufficient to accomplish the cure, without the necessity of any local interference; or, should it be thought necessary to have recourse to operative procedure, this must be made secondary to the removal of those conditions that have primarily occasioned the congestion and dilatation of the hemorrhoidal vessels."*

I was led to the construction of a formula for an ointment ot ranunculus ficaria, and the use of that ointment in my practice, by dint of habitual herbal reading and botanical observation. I venture to think that a physician who wishes to advance his art may still study herbs and herbals with much advantage. The ranunculus ficaria—sometimes called ficaria verna, and popularly known by the names lesser celandine and pilewort—is a well-known British, wild, perennial plant, showing in the spring, in meadows, hedge-banks, and especially in woodlands where the trees are not crowded, its bright, glossy, yellow, star-like blossoms, and shining, green, kidney-shaped or heart-shaped leaves. The perennial root bears amongst its fibres many little fig-shaped tubercles; hence the name ficaria. The larger of these tubercles are of an elongated polypoidal form, and about half an inch in length. They are brownish externally, and fleshy upon section. To prepare the ointment, I direct that the whole fresh plant be used, gathered at the time of its greatest perfection—namely, when it is blooming in the spring. The plants, cut into small fragments, are kept immersed in melted pure hog's lard, at a temperature of about 100° F., in the proportion of one part by weight of the plant to three parts of lard, for 24 hours. At the end of that time, the portions of infused herb in the melted lard are subjected to sufficient pressure to produce the yielding of their juices to the fatty infusion, which infusion is thereupon strained and allowed to cool and solidify, to form the ointment. Care must be taken not to raise the temperature of the mixture too high, lest the colour of the ointment be spoiled. The ointment should be green, of a shade which may be described as a bright green olive-green. It should be applied to the affected parts by inunction, with the aid of a finger, about twice daily, preferably just after an alvine evacuation. For its English name, the ointment might be called celandine cerate, and the word cerate might be justified literally by preparing the ointment with white bee's wax and oil, say almond oil, in due proportions, instead of with hog's lard, infusing the plant in warmed oil.

---

* The Science and Art of Surgery.

Of the ancient reputation of the therapeutic virtues of pilewort in hemorrhoidal affections, and of the popular appreciation of those virtues in the domestic medicine of country places, abundant record is to be found in many English herbals and in many botanical accounts of our native flora. Medical archæologists will enjoy this little pilewort's lore, with its "doctrine of signatures," to which doctrine we owe our early knowledge of opium, and with its popular repute amongst the herb-curers of the people, a remedial vogue of the kind in which our immortal Birmingham Withering found and gave to us even the modern use of digitalis.

CANCER OF THE UTERUS.*

BY J. FURNEAUX JORDAN, F.R.C.S.
SURGEON TO THE
BIRMINGHAM AND MIDLAND COUNTIES HOSPITAL FOR WOMEN.

In starting to write a paper on cancer of the uterus, one is met with the difficulty of deciding what out of so much that is important is the most so and of contracting this into a sufficiently small compass. No apology for selecting cancer of the uterus as the subject for this evening need be offered; my apologies, however, are due for the fact that I have very little if anything new to bring before you. The effects of cancer of the uterus are so deplorable that it behoves each one of us to do everything in his power to render them less so. That the disease is very frequent is a matter of observation on the part of all of us. Williams has estimated that there are 8,000 women suffering from cancer of the uterus at any one moment in England and Wales alone. That a large number of these die without any operative relief is also a certainty. In the last five years I have seen in the out-patient department of the Women's Hospital alone thirty-eight cases, in which any kind of operation was out of the question, and of the seventy cases admitted to Sparkhill in the same time by my colleagues and myself as cases suitable for operative treatment only forty-eight were suitable for operation of a radical nature, the other twenty-two receiving only palliative treatment. If I take my own cases alone, they are as follows:—

1. Unfit for any operative treatment	38
2. Suitable only for palliative operative treatment ...	4
3. Suitable for radical operative treatment	18

Note that barely one-third have been cases which one can relieve to any considerable extent. It is this hopeless position of surgery as applied to the relief of uterine cancer that has induced me to bring the subject up to-night. There are probably cancers in other parts of the body which cause just as serious results, but I doubt if so many deaths (*i.e.* in proportion to the disease) are due to a cancer which is at the same time as capable of relief as uterine cancer. For we have to bear in mind always that, given an early diagnosis, the patient's life should be prolonged for several years, if not saved indefinitely. It is open, therefore, to every one of us to do his best to secure early treatment for the patients under his care.

---

* Read at The Midland Medical Society, and also at The Walsall Medical Society.

I do not know whether we are really nearer to a solution of the question of the cause of cancer than we were a few years back. If it is proved to be due to an invasion of the tissue by some protozoon, or some lowly organism such as the fungi, parasitic in nature and having its host in the vegetable kingdom, we shall. perhaps, be a step on the way towards prevention. In April, 1899, the *Practitioner* brought out a Special Cancer Number, which is well worth the earnest attention of all of us. The chief thing I learnt from this was that the investigations of Alfred Haviland into the Medical Geography of Cancer in England and Wales, of D'Arcy Power into the Local Distribution of Cancer and Cancer Houses, and of H. G. Plimmer into the Ætiology and Histology of Cancer all supported the view that the disease was due to some lowly organism, probably having its host in the vegetable kingdom. Even if we are not quite certain as to the actual direct cause, we have now a very fair knowledge of many of the indirect causes. Long-continued irritation is well known as a predisposing cause. Witness the epitheliomata of the buccal tract so common in men, and from which women are almost exempt. The only case of cancer of the lip that I have ever seen in a woman was that of an old woman who was also an old pipe-smoker. Dr. Herbert Snow in 1891 pointed out in his monograph on The Proclivity of Women to Cancerous Diseases that functional disorder or derangement is apt to generate organic disease. Abnormal cell proliferation is an essential element in all cancer growths, and, as Dr. Snow pointed out, is more likely to occur—

"1. Where the cell-elements normally subsist in unstable equilibrium. In other words, where these are most prone to frequent modifications and changes, either in individual growth; or in relative arrangement.

"2. Where these morphological or histological variations exhibit the most intimate subordination to the nervous system."

I think you will agree with me that these conditions are more than fulfilled in the mammary and the uterine epithelium. The effect upon lactation—both as regards the quantity and the quality of the milk—of excitement, worry, fatigue, etc., are well-known. Even better known are the effects of cold, fear, shock, fatigue, etc., upon menstruation. Worry and anxiety above all things have a powerful effect and I think we may safely say that they are powerful predisposing causes of cancer. Cancer of the uterus is essentially a disease of poor women—a class which above all others, including men, have to bear and patiently do bear the burdens and anxieties incident upon poverty.

Add to these causes, to inherent instability of epithelium and to profound nervous influences, the frequency of injury to the parts with often a more or less severe and long-continued irritation, as in chronic cervical catarrh, and you cannot be surprised at the frequency of cancer of the uterus. That the traumatism of child-birth has something to do with it is very probable. Of my 38 inoperable cases, in 29 of them the disease started in the cervix. All the 29 of them were married; taking 28 of them, the average number of children borne by them was 7·9, practically 8. The 29th curiously enough had no children, but 8 miscarriages. This is a very high average number of children, and we may conclude, I think, that there was a corresponding amount of cervical traumatism. In 8 of the other 9 cases it was impossible to say where the growth started, for the whole body and cervix were affected. In only one, as far as I can tell, was the body of the uterus the primary starting point.

Of my 18 cases of vaginal hysterectomy for cancer again all were married, the average number of children was 8·1, *i.e.* again practically 8, and in twelve of them certainly—probably in all but 2, the disease started in the cervix. May we not, therefore, learn something from these facts as to child-bearing. If possible, let all tears of the cervix be mended at the time, and when this cannot be done, we can at any rate see to it that all deep lacerations which give rise to trouble are mended subsequently. If we attempt to diminish the burdens and anxieties of the poor women we are confronted with problems not medical but social, with the housing question, the question of temperance reform, the hours of work, the scale of wages, and others, all of which indirectly have a bearing on the mortality from cancer.

We will now proceed to the cancer itself, and we must note the three varieties of cancer of the uterus :—

1. Squamous epithelioma of cervix.
2. Columnar celled carcinoma of cervix.
3. Columnar celled carcinoma of body.

1. The epithelioma of the squamous variety springs from the thimble of squamous epithelium covering the vaginal portion of the cervix. This tends to spread onto the vaginal fornix, and besides this epithelial extension it spreads in the direction of least resistance—*i. e.*, into the loose cellular tissue at the bases of the broad liagments, and forwards under the bladder. In later stages it may invade the body of the uterus. This squamous epithelioma is, of course, the one that forms the large fungating cauliflower growth which may fill the whole vagina. It may also as it grows break down and disappear, leaving a ragged-edged cavity in place of the cervix.

Kelly says that it is commonest at about the menopause. The average age of my cases of this type, including the operable and inoperable—forty-five in all—is 45, the youngest being 29 and the oldest 61.

2. The columnar celled carcinoma of the cervix springs from the epithelium lining the mucous glands of the cervix. After

the early stages it may be very difficult to say to which part of the cervix the cancer owes its origin. This is the most malignant of the three varieties. It is more difficult to diagnose than the squamous epithelioma for the reason that it is, as it were, hidden away inside the cervix. It is of rapid growth, and by the time it has eaten away the cervix to such an extent as to be easily diagnosed from digital examination it has invaded the broad ligaments, to which we must remember it is nearer than the growth of the vaginal portio.

As a rule it appears a little later than the squamous variety, between 45 and 50 being the average age.

3. The third kind, only about 2 per cent. of the whole, the columnar celled carcinoma of the body, begins as papillary growths from the epithelium which in time may fill the whole cavity. They are of slow growth and gradually invade the muscular tissue till the uterus is nothing but a large shell filled with cancer. As a rule, this type appears later than the others, and therefore more frequently in proportion after the menopause, and they are the least malignant.

The great majority of cancers of the uterus are of the squamous type and only a very small proportion originate in the body.

In considering the symptoms, we must put hæmorrhage and watery discharge first. Pain is such a variable symptom that it is difficult to speak definitely of it. There may be no pain till it is far too late to do anything, but unfortunately, however much it may be absent in the early stages, it more than makes up for this by causing in the later stages of the inoperable cases most continuous wearing and almost agonising pain, pain which drags on month after month and which can only be relieved by systematic administration of morphia in heroic doses.

In practically every case there were hæmorrhage and discharge. Before the menopause, we find that there is menorrhagia, shortening of the intervals between the periods, and a discharge in those intervals. There may be irregular hæmorrhages or even continuous loss.

Taking my cases, 13 in number, which were only forty years of age or less, *i.e.*, cases markedly before the menopause, the average duration of the hæmorrhage and discharge before I saw them was in the operable cases 6 months, in the inoperable 8⅓ months.

At about the time of the menopause an increase or an irregularity in the hæmorrhage is so often looked upon as quite natural that no particular notice is taken, and often no doctor called in.

Taking the cases between forty and fifty years of age, the average duration of the hæmorrhage and discharge before I saw them was ten months.

Even more grievous is the large number of patients who after the menopause begin to lose again both blood and discharge, and do not seek for advice till too late for relief. Occasionally too when they have sought advice, they have been treated for some months with medicine before any examination has been made.

On referring again to the inoperable cases—38 in number—the average duration of symptoms before I saw them was 12½ months, and therefore with a little more knowledge and care I might have seen them on an average, say nine months earlier, and possibly have saved some of them.

Sixteen of the cases never saw a doctor at all till they came to the Hospital. These were the worst cases, on the whole being the most hopeless.

Ten of them, on seeing their own doctor, were immediately examined, and sent to the Hospital.

Twelve of them had been treated for, on an average, nearly six months before they were examined by their doctors. They were all then immediately sent to the Hospital. This only bears out the well-known fact that in the majority of cases a diagnosis can be made. The mistake is made not in failing to recognise the disease, but in not examining the patient.

In 20 of the 38 cases the menopause had distinctly occurred: taking an average of the 20 cases there was an 11½ years' interval between the menopause and the onset of hæmorrhage or discharge due to the cancer—the number of years varying from 1½ to 34.

I know I am only repeating what has been said over and over again, that if there is an increase in the loss at the menstrual period, especially so if there is a discharge in the intervals, or if there are irregular hæmorrhages either before or at the time of the menopause, an examination should be insisted upon. If there is no cancer, well, the patient is none the worse off, but rather the better; if there is one, then it is being seen early, and some relief may be given. If there is any doubt about it, and in the early stages especially, of the two columnar celled types, there may easily be a difficulty in coming to a certain conclusion; then it is imperative to either remove a portion of the cervix or to curette the cavity and have the specimens examined microscopically.

If hæmorrhage or a watery discharge begin after the menopause has occurred then in every case an examination should be insisted upon. I have heard Bowreman Jessett say that he looks upon every case of hæmorrhage coming on after the menopause as indicative of malignant disease. Certainly, in the great majority of cases it is so. I think, too, that something more may be done. During the troublesome symptoms so often attendant upon the menopause a woman is almost sure to consult a medical man. Would it be too much to expect of him to tell her then that if ever in subsequent years she gets any hæmorrhage or discharge she must immediately come and see him? I think this ought to be done; it can be done without in any way frightening the woman. I think it is necessary because so many of these poor women wait till they have reached the cachectic stage before seeking advice, and this from pure ignorance. They don't know, but they ought to know; and it is the duty of the medical profession to sufficiently put them on their guard.

To come now to treatment, we have to consider at once the palliative and the radical measures.

Probably, many of you could say better than I the measures to be adopted in those cases which are beyond operative treatment, for of necessity, in the great majority of cases I lose sight of them as the end approaches. You probably are frequently doing all that can be done to render their last days more endurable.

I think you will find that beyond antiseptic injections (1 in 40 of carbolic acid is a very good one) and sedatives, one can do little. The few cases in which I have had an opportunity of advising the treatment to the end have, I fear, in my hand become confirmed opium eaters. I was very interested to read an account by Dr. G. R. Leighton in the *British Medical Journal* of a fortnight ago of a case of cancer treated by gradually increasing doses of laudanum. It reminded me of that beautifully written book, "The Confessions of an Opium Eater," in which you remember De Quincey describes how his daily decanter of laudanum was a necessity for his existence and comfort. Half measures are no good in these cases—the quantity of opium must be increased regularly, and you will find that the general condition of your patient is marvellously good. She will even improve in general health, she will be able to get a good night's rest, and there is no difficulty with the daily movement of the bowels.

Whether relief can be afforded by operative measures or not is usually only too easily decided in the negative, and occasionally quite as easily in the affirmative, but there are a considerable number of cases in which it is difficult to give a certain opinion.

In the last five years at Sparkhill there have been 22 cases of what I call palliative operative treatment, *i.e.*, treatment by curetting and cauterisation. Probably some of these cases were admitted for vaginal hysterectomy, and it was only when the operation had actually been begun that complete extirpation was found to be impossible. Considerable relief can be given in cases which are too far gone for complete extirpation by curetting and cauterisation. With a large sharp spoon—which is, I think, more suitable for these cases than the hooped curette—as much as possible of the friable mass should be removed. The scraping may be done vigorously till you come down to hard resisting tissue—guided, remember, by the finger in all parts encroaching on the bladder, rectum, or peritoneal cavity. Bleeding points which will not yield to pressure can be cauterised. By this, a procedure safe and easily performed, considerable relief will be afforded. There will be less hæmorrhage and less foul discharge, and therefore less personal discomfort.

I come now to a consideration of those cases suitable for a more radical operation—for vaginal hysterectomy. Before speaking of the results of this operation, I must refer briefly to the question of vaginal versus abdominal hysterectomy for cancer of the uterus.

We must bear in mind that no one would perform abdominal hysterectomy in these cases except with the idea of removing the broad ligaments, the loose sub-peritoneal connective tissue, and the lymphatic glands. The lymphatic glands liable to infection are as follows :—

A chain of glands in the retro-uterine folds of the peritoneum.

A group of glands round the internal iliac artery, in the angle between the external and internal arteries, and extending over the common iliac artery above the pelvic brim.

And a group known as the deep inguinal glands, to which infection is carried from the fundus along the round ligament lymphatics.

I maintain that any operation intended to make a clearance of all this is, even with perfect asepsis, more serious than vaginal hysterectomy. Of course, the principle involved is that carried out in surgery of the breast. No one would dream of removing a cancer of the breast without clearing out the axilla. Whether such a clearance should be made of the uterine lymphatic glands depends entirely upon whether the disease spreads through the glands or after removal recurs in them. I think the general experience is that recurrence occurs in the scar or in the pelvic floor—probably, that is, where it had originally extended, and had not been completely removed. Certainly it is my experience. In the last year or two I notice that Jacobs, Freund, Ries of Chicago, Reynier, Ricard, Cullen, and Richelot, Continental and American operators, strongly advocate the complete removal of everything through the abdomen. If you refer to that monumental work of Kelly's on Operative Gynæcology you will find an operation, most beautifully described and illustrated, for removing practically everything above the pelvic fascia and between the bladder and the rectum, except the ureters; but in the same volume he acknowledges that taking all his cases in only *one* were the lymphatic glands found affected. Since this was published he has a publication in the Johns Hopkins Hospital Report for March, 1900, in which he comes back to vaginal hysterectomy as the ideal treatment. He does not, however, hesitate to remove, if necessary, a portion of the base of the bladder, or even a portion of the ureter. Practically all British and Irish gynæcologists advocate vaginal hysterectomy as *the* treatment in suitable cases. Are we justified in doing so? The answer to this involves the question of prognosis. To give a definite opinion as to prognosis in a case of cancer of the uterus is very difficult. Easy is it to say that the patient will die from the disease if it is allowed to run its course. To say how long she will live and what will be the actual cause of death is almost impossible. For one thing you are never quite certain how long the disease has already been present before you see her, and you can only depend upon the condition then and there present. You may have a slowly (*i.e.*, comparative slowly) growing tumour—rather hard, with little breaking down of tissue—only intermittent hæmorrhages and moderate discharge—and you would be inclined to give a favourable opinion, but you never know when the ureters will become involved in the disease, and such involvement may lead to a fairly rapid termination. This will probably be due to hydroureter, hydronephrosis, possibly pyonephrosis, suppresion of renal activity, and uræmic poisoning.

Again, with the variety in which the friable tissues break down readily so that there is destruction of tissue, and where the cervix ought to be there is merely a ragged rugged cavity, the burden of living may be prolonged month after month till it becomes intolerable. I have seen three cases myself go on in this way for eighteen months and two years, life only being rendered endurable by opium. Any minute, however, the disintegration may extend to and eat into a fairly large blood vessel and then the end is rapid. When a patient shows marked cachectic symptoms—due to long continued hæmorrhage, discharge, pain, loss of appetite, and even vomiting and chronic septic poisoning—we may be certain that the end is not far off.

I suppose that on the average the cases last for two or three years. The younger they are, the more rapidly fatal they are. With cancer of the body, rare remember, only about 2 per cent. being in the body, life may be prolonged for some years.

How long do they live after vaginal hysterectomy, and does the operation itself cause a risk of death?

In forty-eight vaginal hysterectomies for cancer performed at Sparkhill in the last five years, there have been no deaths.

In answer to the question—how long is life prolonged, or to what extent is it saved by vaginal hysterectomy?—we must bear in mind that the operation will in a certain number of cases be done when there is great difficulty in eradicating all the disease, and certainly it will be done occasionally when some of it will be left behind. Even in these unfavourable cases the very best thing that can be done has been done—the recurrent disease does not give rise to such intensely distressing symptoms as the original disease, and the end is less painful.

In favourable cases—cases where the disease has not extended to any great degree from the vaginal part of the cervix on to the vaginal wall, where the broad ligaments are not involved, and where the retro-uterine folds are not involved, vaginal hysterectomy should be done. This practically means where the uterus retains its mobility; although, in saying this, I know from experience that there are cases where the mobility is at any rate impaired and yet they are suitable for and benefited by removal.

There is not the time, nor is this the occasion, for dwelling upon details of the operation. I will just mention two points: First, that slight extension on to the vaginal wall can be overcome by removing a collar, as it were, from the top of the vaginal wall. Second, that in cases of cancer I always clamp the broad ligaments in preference to ligaturing them.

My own cases are eighteen in number—fourteen at Sparkhill and four in private. One—the only one done in a private house—died four days after the operation. It was a very difficult case, but her death was due to failure in the after-treatment.

Of the seventeen other cases the results are as follows:—

One operated upon in 1895—an early case of cancer of the body, verified by microscopic report; still alive, and with no sign of recurrence.

One in 1896—not a favourable case, the whole of the uterus being one mass of cancer; recurred in two years, and ended fatally at the end of three years from the original operation.

Four in 1897—in May, September, and November respectively.

Two in May—one a favourable case, still alive, with no sign of recurrence; the other, also apparently a favourable case, died nine months ago from recurrence.

One in September—died three months ago, *i.e.*, four years after the operation.

One in November—a very favourable case—alive now and perfectly well.

Six cases in 1898:—

In No. 1, death from recurrence in two and a half years.

In No. 2, recurrence in two and a half years—*i e.*, six months ago—still alive.

In No. 3, favourable case of fundus—alive, and no sign of recurrence.

In No. 4, recurred in twelve months, and in another six months she died.

In No. 5, death from recurrence six months ago.

In No 6, cannot be traced.

Five cases in 1899.—Three of these were done very nearly two years ago, and they are alive with no sign of recurrence. One also, done nearly two years ago, has recurrence, and is dying.

The fifth—operated upon eighteen months ago—is dead, but I cannot discover what was the cause of her death.

One case in 1900—not a favourable case—I saw again two weeks ago for the earliest signs of recurrence.

To sum up—

One case has lived 5 years without any sign of recurrence.

Two have lived 4 years without any sign of recurrence.

One 3 years without any sign of recurrence.

Three have lived 2 years without any sign of recurrence.

When recurrence has occurred, it has, on an average, been in about two years or a little under, therefore, I may at any rate hope that those that have gone so far as long as two or three years without recurrence may go on much longer still. They are 7 out of 17.

Death has occurred from recurrence five times in respectively 4 years, 3½ years, 2½ years, 1½ years, 2 years, *i.e.* in an average of over 2½ years.

Three have recurrence and will die.

One I cannot trace.

One I cannot give the cause of death, probably due to a recurrence or some secondary growth.

In 41 per cent. life has been saved indefinitely, and remember that if the cases were seen earlier, this rate might be improved upon.

It is not a large percentage to save ; but, even where life has not been saved, it has at any rate been prolonged, and a great deal of pain and intense discomfort avoided.

The improvement of the results depends more upon the profession generally than upon the specialist. And for the very reason that often there are no symptoms till the disease is well beyond the earliest stages, it is imperative that when the symptoms do arise they should receive the utmost attention we can give them

REPORTS OF CASES.

DELAYED TOXIC EFFECTS OF SULPHONAL.

BY DR. SADLER,
ASHBURNE, DERBYSHIRE.

A Roman Catholic priest, aged 70, was under treatment for various chronic gouty manifestations, including neuritis of the musculo-spiral, following on a wrench of the arm. He had also enlarged prostate with frequent micturition, but no abnormality of the urine. He was liable to certain head symptoms, which were much relieved by occasional doses of blue pill and black draught; and at times he was much troubled with sleeplessness, for which 20 grains of sulphonal had been given on several occasions, with apparently excellent results.

On February 27th of the present year, ten or fourteen days after the previous dose, he took 20 grains, as he was beginning to suffer from the sleeplessness again. He had a fairly good night after it, being disturbed, as is usual with him, four or five times, to micturate. He felt quite well the next morning, and in the afternoon went for a drive. During the drive he began to get very drowsy, and took very little notice of anything, and on his return home was at once put to bed. He had a quiet night, not at all restless; his attendant says he was apparently sleeping all night, with the exception of the four or five times when he roused up to pass water. He himself, however, declared that he did not sleep at all.

The next morning—*i. e.*, the second after taking the drug—he seemed better and less drowsy, but about 11 a.m. had a shivering attack, after which the pulse was noticed to be fluttering, quick and very irregular. [Ordinarily his pulse is large and soft, beating 72, with an occasional intermission; the arteries tortuous but not thickened]. I saw him a short time after the attack; the pulse was still quickened, and with rather more intermissions than usual; temperature 102°. He was in a semi-comatose state, but restless; talked rather incoherently, except when fully roused, but even then he relapsed again into the lethargic and incoherent state as soon as he was left alone. There was inability to hold the water; it was dribbling away constantly; he was conscious of this, and it seemed to irritate him considerably. The bladder was not distended. The right angle of the mouth had dropped slightly, the tongue was protruded slowly and hesitatingly, but did not deviate to either side. There was no special paresis of limbs, but general muscular weakness and inco-ordination were very marked. His pupils were equal, the eyes closed—the lids appearing heavy with sleep. There was no sickness or diarrhœa.

At 5 p.m., the temperature was 101°, he was more comfortable, with less mental obscuration, and the urinary symptoms were subsiding. At 9 p.m. the temperature had fallen to 99°, he was much more like himself, and had almost recovered his urinary control. On the next day the temperature was normal and remained so, the pulse had practically regained its normal characteristics, muscular movements were more active and under control, the mind was clear, and urination as before the attack. Within a day or two he returned to his previous mode of life, and though rather more infirm and decrepit than previously, managed to take his services as usual.

There being some doubt as to the immediate connection of the symptoms with the dose of sulphonal, it was decided, when the restless nights recurred, to try sulphonal again, especially as it had seemed to act so satisfactorily on several occasions. Twenty grains were given at his bedtime (7 p.m.), on March 25th, and exactly the same series of events followed as on the previous occasion, though the loss of control over the bladder was not quite so marked, and the effect on the pulse was very slight. There was the same interval exactly between the administration of the dose and the onset of unpleasant symptoms; the shivering attack occurred on the second morning after the dose had been given. and the mental torpor and muscular inco-ordination became so marked in the afternoon that he had to be carried up to bed. He had had no drive, nor been subject to any unusual exertion; he did, however, go out for a short time on the morning after taking the dose as he felt so much better than he had done for a few days previously. The third night was a good and natural one, and the next morning (March 28th), he seemed to have recovered from the attack, the effects not lasting quite so long as on the previous occasion.

After this second attack more particular enquiries were made concerning the earlier doses which were supposed to have acted so satisfactorily. Both he and his attendant then remembered that on each occasion when he had taken the hypnotic he had had on the *second* day after its administration a tendency to shivering—a sort of creepiness, lasting for a few seconds, and recurring several times in the course of the afternoon.

I have recorded this case mainly on account of the unusual delay in the onset of unpleasant symptoms. I had been careful to ensure a good action of the bowels on the day of administration. Each dose was taken early in the evening, after the patient had retired to bed (which he usually did about 7 p.m.), and there was apparently no disturbance of any kind to interfere with the prompt action of the drug; and, as far as I can see, nothing but the presence of gouty poison in the blood to account for the late development of the toxic effects which it produced.

MEDICAL ABSTRACTS.

OPHTHALMOLOGY.

BY J. JAMESON EVANS, M.B., F.R.C.S.

OCULAR COMPLICATIONS OF INFLUENZA.

Pechin (*Recueil D'Ophthalmologie*, March, 1900) records the varied and complex eye symptoms which have been described as being directly or indirectly associated with influenza, most of the lesions he ascribes to the toxines produced by the bacillus of Pfeiffer, but some symptoms, such as muscular asthenopia, are attributed to muscular fatigue.

The lids are sometimes the seat of inflammatory œdema, which may be due to conjunctival or ciliary abscesses, or it may be a manifestation of inflammatory action in one of the neighbouring frontal and nasal sinuses. Conjunctivitis may appear as a reflex symptom in rhinitis or ethmoidofrontal and maxillary sinusitis, and may be associated with small hæmorrhages into the bulbar and palpebral conjunctiva. Numerous corneal lesions have been noted in the course of influenza, and include serpiginous keratitis with hypopyon, dendritic keratitis, keratitis punctata superficialis, parenchymatous keratitis and phlyctenular keratitis, whilst corneal ulceration may complicate the conjunctivitis of influenza during convalescence. Tenonitis and recurrent episcleritis are among diseases attributed to influenza. But of all the ocular structures the uveal tract is the most vulnerable to the influenzal poison. Iritis has not often been observed, but cyclitis, often of a curious type and sometimes associated with hypopyon, has been recorded by several observers. In the latter case the iris remains absolutely unaffected, notwithstanding the fact that the pus in the anterior chamber has been found to contain bacilli identical with those found in the bronchitic sputum of influenza. As a rule the process is persistent and painful, and is followed by loss of vision or even phthisis bulbi.

Even the lens and vitreous are not spared; cataracts have been known to develop suddenly after influenza, and acute inflammation of the vitreous and suppurative hyalitis have been reported.

There are numerous records of glaucoma having developed during or after influenza, and also of hæmorrhages into the retina, and neuroretinitis, with or without choked disc. Retrobulbar neuritis, possibly secondary to sphenoidal sinusitis, or purely a form of toxic peripheral neuritis, and sometimes followed by optic atrophy, is one of the graver complications to be on the look out for. Apart from peripheral anatomical lesions, we may find giddiness or coloured vision, probably as the result of nervous exhaustion or the contamination of nervous centres by toxines. Muscular asthenopia may appear early or late in the disease, and in certain cases distinct paresis or paralysis of certain of the ocular muscles or neuralgia of the 5th nerve, have been recorded. Among rarer complications are dacryoadenitis and orbital abscesses, complicated by secondary infection of air sinuses or brain.

AMAUROTIC FAMILY IDIOCY.

Michael Mohr (*Archives of Ophthalmology*, November, 1900) gives a *resumé* of cases of this disease already published, starting with Warren Tay's cases. He adds a record of another under his own care, and includes a pathological report of the eyes, brain, and spinal cord. It appears from these accounts that the disease is distinctly characteristic. The child, often of Hebrew parentage, is born healthy, but within the first two months or so it is noticed that he becomes apathetic, rolls his eys about, and becomes so weak that he is unable to sit up or hold his head erect The weakness in the extremities gradually increases, and eventually develops into a distinct paralysis of a spastic or flaccid nature, and may be accompanied by epileptiform convulsions. The reflexes may be increased, normal, or decreased; the majority of the cases, however, showing no change in that respect. The infant's mental development ceases, and towards the end of the first year complete idiocy supervenes. The eyes generally appear normal externally, and the movements are generally unimpaired, though nystagmus and divergent strabismus have been observed in some cases. The pupils are variable in size, and may react sluggishly to light; but as a rule nothing abnormal has been observed with regard to them or the media. Ophthalmoscopic examination reveals the characteristic fundus change, which consists in the development of a circular or oval patch of whitish or yellowish-white colour, from 1 to 3 discs in diameter, in the macular region. In the centre of this patch is a sharply-defined brownish-red spot, which looks like a hole punched out of the whitish patch, and through which the normal tissues are seen beyond. In fact, the appearance is just like that of embolism of the central artery of the retina. At first this may be the only ophthalmoscopic change, but later the optic disc becomes atrophic, generally without any evidence of previous inflammatory change. The vascular system of the retina undergoes no change either in calibre or colour as a rule, and there are no retinal hæmorrhages. The child eventually becomes absolutely blind, and dies within the first two years.

The Pathological changes observed include an abnormal arrangement of the fissures and gyri of the brain suggestive of a low stage of development. Microscopically the large pyramidal cells are few in number and show a marked degeneration of the protoplasm, whilst the processes and axis cylinders are diminished in size and broken down. The fibres of the corona radiata also show an extraordinary diminution in number, and a degeneration of the pyramidal tracts may be traced as far as the lumbar region. The pyramidal and ganglion cells of the cord may be found to have undergone a degeneration similar to that of the pyramidal cells of the brain. Allied changes have been observed in cells and fibres of the cerebellum, optic tract and chiasma, the fifth nerve bundle, the upper cerebellar peduncles and the basal ganglia. The blood vessels and neuroglia have been found free from any sign of inflammatory mischief in most cases. No pathological change has been observed in any other organ except the eyes.

The eyes show atrophy of the optic nerve with increase of interstitial fibrous tissue and round cells. The retinal vessels are normal, but the choroidal vessels corresponding to the macular region may be distended. The retina at the macular may be detached and thrown into folds, and microscopically it is here seen to be thickened in consequence of an enlargement of the outer molecular layer, which here and there shows cavities evidently due to œdema. The atrophy of the optic nerve is apparently secondary to a degeneration of the visual cells. The macular condition, though resembling embolism of the central artery, is not identical with it, and is possibly of the nature of angioneurotic œdema, due to frequent spasm of the retinal vessels from degeneration of the vasomotor fibres in the cervical region of the cord.

RETRACTION MOVEMENTS OF THE EYEBALL.

Wolff (*Archives of Ophthalmology*, May, 1900) describes five cases of this peculiar condition, in which by the contraction of one or more of the ocular muscles the eyeball is drawn backwards into the orbit and returns to its former position, when the contraction ceases. The retraction movements never occur without other associated symptoms, which form a distinct clinical picture, which the author thus describes:—

"The condition is always congenital. Retraction occurs during attempted adduction, which may be absent or present, but is always less than normal. Retraction is accompanied by narrowing of the palpebral fissure. Partial or complete paralysis of the external rectus of the retracted eye is regularly present. Some cases present a moderate constant retraction and narrowing of the fissure, even in the primary position. In these cases attempts at abduction produce a propulsion of the globe and widening of the palpebral aperture. When the retraction is considerable, the cornea is turned upwards in some cases, downwards in others, even when the fellow-eye makes a purely lateral movement." To explain the production of these symptoms the author adopts the *fixation* theory of Tuerk, which assumes that the paralysed external rectus consists of an unyielding connective tissue strand in place of elastic muscular fibres. It therefore fixes the eyeball on its outer side and offers an obstacle to adduction, so that the eye can yield to the traction of the internal rectus only by moving back into the orbit at the same time that it turns inwards. This also explains why in all cases of retraction adduction is incomplete, even though the internal rectus be normal in its insertion and power. The occasional enophthalmus observed in the primary position of the eyes is due to the tonus of the nternal rectus, which is sufficient to hold the eye in the retracted position when the unyielding external rectus is rather short. So also the complete relaxation of the internal rectus explains the propulsion of the globe during attempted abduction from the primary position. The upward or downward movement of the eye during retraction is due to the resistance of the optic nerve at its attachment, and the direction of the displacement varies according as the resistance is above or below the plane of retraction. The unilateral headaches complained of in most of the cases are due to the oft-repeated retraction of the globe, and consequent pressure on the orbital contents. The only treatment which has given anything approaching satisfactory results is tenotomy of the external rectus and fixing the eye in the adducted position during the healing process, in the hope that the muscle, or the structure which represents it, may get attached farther back on the globe, and thus practically lengthening the tendon. Advancement of the internal rectus would only aggravate the condition. If there is convergence and retraction of the eye in the primary position tenotomy of the retracting internal rectus would be indicated, thus relieving both convergence and retraction, though sacrificing some motility.

OPHTHALMOSCOPIC LESIONS OF HERDITARY AND ATAVISTIC SYPHILIS.

Antonelli (*Recueil D'Ophthalmologie,* October, 1900) finds certain fundus lesions to be almost constant in hereditary and even atavistic syphilis, the most common being vascular lesions in the posterior segment, or peripapillary region. Endovasculitis, perivasculitis, sometimes hyaline degeneration of the vessel wall, and small celled infiltration of the optic nerve and sheath. The iris is frequently affected by a similar process. He thinks that the so-called spontaneous hæmorrhages into the vitreous in young subjects may sometimes represent a late manifestation of hereditary syphilis. Gross patches of choroiditis, atrophy, and pigmentary retinitis represent the exception, in hereditary syphilis, and still more so in atavistic syphilis. The importance of recognising these lesions rests in the fact that their discovery may elucidate the nature of many doubtful diseases of skin, bone, and other structures, and direct us to the proper course of treatment. Their presence will often serve to show that an apparently healthy child has not entirely escaped infection from his syphilitic parents, indeed the author goes as far as to say there is no such thing as a healthy child of syphilitic parents. The presence of fundus lesions in the parents of a child who has developed symptoms of hereditary syphilis help us to trace the source of infection and to definitely decide the existence of atavistic syphilis, and to form a more accurate idea of its frequency.

THE TREATMENT OF LESIONS OF THE LACHRYMAL APPARATUS BY ELECTRICITY.

DuGourlay (*Annales D'Oculistique*, May, 1900), arguing from analogy with urethral strictures, has applied electricity to the treatment of lachrymal strictures and other affections of the tear passages. He finds that the method gives results more prompt, more certain, and more durable than any other that he has employed. In the milder cases of strictures he uses a negative current of about 5 milliamperes. The more severe cases of catarrh and dilatation of lachrymal sac require the positive current, and cases complicated by fistulæ and fungosities of the sac are best treated by electro-cautery. Ectropion due to long-standing epiphora he treats by making a deep linear scar along the lid from the caruncle to the external canthus with the electro-cautery, and afterwards makes the reposition of the lid permanent by applying a feeble induced current to the relaxed orbicularis. This same current contributes also to the cure of dilatations of the lachrymal sac.

The technique of the method consists of a battery of sixteen small elements, provided with an invertor and a galvanometer. One electrode consists of an oval plaquette covered with leather, and is to be applied to the neck, cheek, or held in the hand. The other terminal is modified to receive a Bowman's probe. Ordinary silver probes are employed in mild cases where a feeble current suffices, but when it is necessary to exceed 5 miliamperes, probes made of copper are preferable, as being more malleable and not so liable to get hot—a result likely to provoke secondary strictures of a very distressing nature.

With the exception of the places corresponding to site of the constrictions, the probes are covered with a layer of insulating varnish; the author prefers a solution of gum-lac in absolute alcohol as being the best for the purpose. The insulated probe having been introduced, the skin of the inner canthus is protected by a pad of blotting-paper, and in a mild case an ascending negative current of 5 milliamperes is turned on for four or five minutes, and for about thirty seconds before the withdrawal of the probe the current is reversed. After such an application the lachrymal passages undergo an inflammatory reaction, and it is advisable not to repeat the treatment for six or eight days. It is rarely advisable to employ the same intensity of current at the second sitting, and it is well to descend progressively to 4, 3, and even 2 milliamperes. Four or six sittings during the first month, and one a week afterwards, suffice for these mild uncomplicated cases of stricture without much discharge or dilatation of the sac.

In more pronounced cases, with dilatation of the sac and catarrhal dacryocystitis, the olive-headed copper probe is used, and a descending positive current of at least 5 milliamperes passed for three to five minutes. The process is repeated in five or six days, and, as an adjuvant, the application of an induced current to the region of the sac is recommended.

In cases of fistula, marked changes in the sac wall, fungosities, and osseous alterations, it is necessary to dilate the passages and employ antiseptic syringing freely before the electrical treatment is begun. Then the negative current is used to establish the normal passages as in the mild cases, and having attained that object, the sac wall and fungosities are dealt with by means of a small electro-cautery which is passed once or more over the whole inside of the sac.

By this method the most severe cases are cured in about three months, with two sittings a week during the first month, and one a week afterwards. Milder cases are cured in six weeks, a month, and even after three electrolyses.

The only drawbacks to the method appear to be the aggravation of the pain during the electrolysis, especially if the patient has bad teeth, and the fact that the operation requires the very careful attention of the operator to avoid the passage of a current of excessive intensity which is apt to greatly complicate the case by setting up most annoying secondary strictures. The apparatus is somewhat costly and delicate, and if the surgeon resides in the country he should know thoroughly how to manage, and if need be, to repair it.

REPORTS OF SOCIETIES.

Midland Medical Society.

The eighth Ordinary Meeting of the Society was held on Wednesday evening, March 27th, 1901, at the Medical Institute, the President, Mr. Jordan Lloyd, in the chair.

Dr. A. J. MacKenzie, M.D., F.R.C.S., Ed., was elected a member of the Society.

The following officers were nominated for election:—Mr. A. Oakes as President; Mr. J. Garner as Treasurer; Mr. Christopher Martin and Dr. J. W. Russell as Secretaries.

Case of Gastro-pylorectomy.—Mr. Jordan Lloyd showed a man, 39 years of age, from whom he had removed by operation in September last an enormously thickened pylorus and adjacent 2½ inches of stomach-wall. The patient had excellent health until 1897, when he began to suffer from "painful indigestion." In 1899 vomiting after food began, and continued on to time of operation, with increasing debility and flesh loss. Hæmatemesis was absent throughout. A tumour could be felt midway between the ensiform cartilage and the umbilicus; very hard and tender, and moving freely with respiration. It felt suspiciously like a malignant growth. The abdomen was opened in the midline above the umbilicus, the "tumour" isolated in the usual way, and the duodenum cut through transversely half an inch below the indurated area, above which the stomach was cut through obliquely, as the hardness extended more along the lesser than the greater curvature. The greater opening in the stomach was narrowed from above by continuous silk Lambert sutures and the duodenum similarly fastened in the lower angle of the gastric wound. Recovery was absolutely uneventful; neither pain nor vomiting have occurred since. He was fed by enemata for ten days, then with slops by the mouth, solids being commenced four days later. He left hospital on the thirty-third day, taking an ordinary diet. He has gained 2½ stones in weight, and is in better health than he has been for five or six years. After removal the pylorus would not admit an 11 English catheter: the great thickening about the strictured part was partly inflammatory and partly hypertrophic.

Dr. McGavin showed a case of Ocular Paralysis.

Cribriform Iris.—Dr. W. Farncombe showed a female child, aged two, with a congenital malformation of the iris in both eyes. In the right eye the pupil was elongated upwards and outwards, while immediately below its margin, and separated from it by a thin strand of iris tissue, was a vertical slit almost concealed by the lower lid and readily showing a red reflex. In the left eye the pupil was triangular. Both pupils reacted to light and accommodation. Vision appeared acute. He regarded it as a case of bridge-coloboma with button-hole pupil.

Myxoma of Arm.—Mr. Haslam showed a tumour that he had removed from just above the internal condyle of the left humerus of a woman aged 31. The tumour had been noticed for about three years and was evidently very deeply attached. It was found to be entirely beneath the muscles and was firm and lobulated; its deepest process had drilled a hole into the anterior aspect of the humerus into which the end of a thumb could be easily placed. It was firmly attached to the capsule of the elbow-joint. On section it proved to be a myxoma with a considerable amount of fibrous tissue.

Paper.—Mr. J. Furneaux Jordan read a paper on Cancer of the Uterus.

Kidderminster Medical Society.

A meeting of this Society was held at the Kidderminster Infirmary, on Friday, March 29th; Mr. J. Lionel Stretton (President) in the chair.

The Secretary announced that, as a result of a conference between a sub-committee of the Society and a deputation from the Stourport Medical Association, that Association had amended its rules so that in future—(1) The Association would confine its membership "solely to the *bonâ-fide* wage-earning classes." (2) "Canvassing for members shall be prohibited." (3) The "capital shall not exceed £100."

In consideration of these amendments, the disabilities which had been imposed upon their Medical Officer were removed.

The President showed—

1. A large cyst, the size of a bantam's egg, removed from the verge of the anus of a man aged 48.

2. An appendix cæci, removed from a girl aged 25. She was seized with acute symptoms on Friday night, after a hearty meal. The doctor was called in on the Sunday, and found her suffering from appendicitis, with some localised peritonitis, and, after a consultation, it was decided to open the abdomen.

This was done by the usual incision over the appendix; about a pint of milky pus and some fæcal matter escaped. A large perforation was found near the root of the appendix, from which fæcal matter was flowing freely; the tip, which was fully six inches away, and was also perforated, was fixed posteriorly. It was ligatured and removed, and the abdomen swabbed out with sterilised gauze, a strip being left in, and the wound closed with silkworm gut stutures. Her pulse on the following day was 98, and her temperature normal.

The President remarked on the great length of the appendix, the fact that there were two perforations, and the remarkable recovery, in spite of the large amount of peritonitis and constitutional disturbance. He insisted on the importance of dry swabbing as opposed to flushing.

Dr. Evans read notes of a case of Strangulated Hernia upon which he had operated.

REVIEWS.

◆

MODERN SURGERY, GENERAL AND OPERATIVE.*

It is with much pleasure that we welcome this edition of Da Costa's Surgery. The book is much enlarged, exceedingly well got up, and in all details will be found thoroughly up to date, containing in a moderate space and in a well-expressed manner the fundamental principles, the chief operations, and the accepted methods of modern surgery.

We can with confidence recommend it to students and junior practitioners, for it stands between the cumbrous text-books and the smaller cram books. In considering the previous edition, we commented favourably on the chapter devoted to Surgical Bacteriology, but it seems to us now, that as this subject has been of late so much developed, it might with advantage be left out in a text-book on Surgery. As far as it goes it is very well done. The directions given for sterilizing the hands, dressings and instruments, are admirable; we note with pleasure that irrigation of aseptic wounds is not advised and that drainage tubes need not then be used.

---

* Modern Surgery, General and Operative. By John Chalmers Da Costa, M.D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia, etc. Third edition. Revised and enlarged. London: W. B. Saunders & Co.

The section dealing with Fractures is much improved by the addition of some excellent radiographs. We notice that the author recommends the straight dorsal splint for the treatment of Colles' fracture; he does even mention the use of Carr's splint. Also that the deformity in this condition is due to the direction of the violence and not to muscular action. The chapters dealing with Abdominal Surgery appear to be particularly concise and well done.

The book as a whole is exceedingly well illustrated, the illustrations are admitted to have been borrowed not only from American sources, but equally or more from British and Continental. It is invidious to criticise details in a book of this nature, which, as far as it is possible to do, fulfils what it claims.

We shall strongly recommend it to our students.

AN AMERICAN TEXT-BOOK OF PHYSIOLOGY.*

The first edition of the American Text-Book of Physiology appeared some time ago, and met with a very favourable reception; and as time has gone on the merits of the work have had their deserved acknowledgment. The second edition now appears in two volumes—an advantage in many ways. There has, therefore, been some necessary re-arrangement of sections, but the actual amount of material remains substantially the same. In a science like physiology three or four years mean a long period, and in that time many changes take place. This necessitates considerable modifications in a text-book, and in the present instance the needful alterations have been made, thereby bringing the work up to date.

---

* An American Text-Book of Physiology. Edited by W. H. Howell, M.D. Second edition. Philadelphia: W. B. Saunders and Company.

So far, only Volume I. has appeared. It contains sections on the Blood, the Lymph, Secretion, Chemistry of Digestion and Mechanics of Digestion, by Professor W. H. Howell (the Editor). The Circulation is taken in hand by Drs. J. G. Curtis and W. T. Porter. Professor Luck contributes the chapter on Chemistry, and Professor Reichart on Respiration and Animal Heat.

From careful perusal of the text we are impressed by the terse and lucid manner in which facts are stated. The book is well illustrated (partly in colours), the more important references are given in foot-notes We believe that not only will the American Text-Book of Physiology maintain its place as a sound work on the subject, but will also have an increased reputation as it becomes more widely known.

A DICTIONARY OF MEDICINE AND THE ALLIED SCIENCES.*

THIS, the third edition of a very useful Dictionary of Medicine by Dr. Alexander Duane, is one which is accurate, handy, and well got up. The system of the work is to give clearly and succinctly the meaning of terms used in medicine and the allied sciences. Thus, terms in use in chemistry, biology, and physics are explained, and their derivation given.

---

* A Dictionary of Medicine and the Allied Sciences. By Alexander Duane, M.D. Third edition. London : Rebman Limited.

The work does not aim at being a dictionary of diagnosis or treatment, and as a rule there is no reference to symptoms. In some cases, however, there is given a very brief outline of some morbid condition. On the other hand, certain generalities come in for more notice. Thus, "Tumour" is followed by a short table of definitions of the various forms of new growth.

Under the head of "Poison" is given a table of the symptoms and antidotes of each poison. We may give another illustration of the method followed by the writer, for "Nerve" is followed by a table, in which is set forth the origin and distribution of each specially named nerve, and the formation of each plexus.

The work contains eight very artistic plates of bacteria, blood cells, malaria plasmodia, urinary sediments, etc.

We can safely say that Dr. Duane's Dictionary will be of interest to all medical practitioners, and it should be found on every consulting room table.

THE MEDICAL EXAMINATION FOR LIFE INSURANCE.*

THE object of this work is evident from the title. It goes carefully into questions bearing on the whole question of medical examination and its many difficult problems. The various phenomena met with in the examination of an applicant, and which so often give trouble, especially to those who are but little accustomed to this kind of work, are fully dealt with, and their bearings on classification of lives and rating up is given. As might be expected, the chapters on pulmonary disease and examination of the urine form a large part of the book; and there is, perhaps, no part of the duty of the medical referee which gives him so much trouble, and which requires more care, and at times help, than the examination of the urine. The writer also enters fully into "family history" and "hereditary tendency," and similar questions which the candidate must accept as his luck, good or bad. Much interest is infused into the book by a short history of the growth and progress of Life Insurance. Some of the more celebrated cases of attempt to defraud insurance companies are told in a somewhat graphic manner. The book can be said to be eminently useful and considerably interesting, and the medical examiner will find in it much to help him in making up his mind on some of the difficult questions which are sure to arise in insurance work, especially for those who wish to be absolutely fair to the applicant and the company alike.

---

* The Medical Examination for Life Insurance. By Charles Lyman Greene, M.D. London: Rebman Limited.

THE CONSULTATIVE INSTITUTION.

A meeting of Consultants and Specialists was held at the Medical Institute, on Thursday, May 2nd, at 4 p.m., to consider the new proposals of the promoters of the Consultative Institution, as embodied in the advertisements recently inserted in the local papers.

There were present: Drs. Charles, Emery, Foxwell, W. R. Jordan, Kauffmann, Lamb, Lewis, McCardie, Malins, Perry, Purslow, Rickards, Russell, Saundby, Smallwood Savage, Short, Simon, Stanley, Suckling, Vinrace, Wood White. Stacey Wilson, Thomas Wilson, and Martin Young; and Messrs. Allport, Barling, Bennett, Eales, Jameson Evans, Gamgee, Leedham Green, Haslam, Heaton, J. F. Jordan, Jordan Lloyd, Lucas, Bennett May, Morrison, Lloyd Owen, Gilbert Smith, Priestley Smith, J. W. Taylor, W. Thomas, and Wright Wilson.

Apologies for non-attendance were received from Sir James Sawyer, Dr. Bottle, Dr. Foxcroft, Mr. Chavasse, and Mr. Marsh.

Dr. Saundby was elected Chairman, and reviewed the events which had taken place in connection with the Consultative Institution since the last meeting, held on July 6th, 1899, at which a resolution was passed confirming the statement that many of the leading Consultants and Specialists were prepared to see for half a guinea those persons whose means did not enable them to pay the usual fee. No formal reply had been received to this resolution, and in the spring of 1900 the scheme was actually put into operation. Dr. Saundby referred to the advertisements which had been widely issued and displayed in public places, and to the action taken by the General Medical Council at their meeting on November 29, 1900. As a consequence of this action, most of the advertisements had been withdrawn; but at a public meeting subsequently held at the Council House a number of speeches were delivered by the promoters of the scheme, denouncing the Medical Council and the medical profession and lauding the skill and capacity of the physician of the institution. A few weeks later the latter resigned his post, which would become vacant on the 21st of the present month. At this juncture Mr. Arthur Chamberlain, in a letter to the *Birmingham Daily Post*, expressed his willingness to receive a deputation from the medical profession. The Committee appointed at the last meeting to represent the interests of the Consultants and Specialists in this matter did not feel themselves called upon to respond to an invitation conveyed in this manner, and an informal intimation was made to the effect that if the promoters of the scheme desired a conference they should request the Lord Mayor to call one; and it was further suggested that it would be desirable to secure the presence of several independent public men in order to prevent a recurrence of the misrepresentations which had been the result of the former meeting. A further letter was received stating that the Lord Mayor had consented to call a conference, and upon this a meeting of the Committee was held and some correspondence ensued, the Committee agreeing to the conference, but insisting upon the whole question, and not merely details of the management of the Institution, being discussed. At this point the correspondence was taken up by the Hon. Secretary to the Consultative Institution, who addressed a letter to Dr. Saundby, in which, although the suggestion of a conference had come from their side, it was referred to as if it had come from the medical profession. The reply sent was to the effect that, while the medical profession had no objection to the conference, it had not been of their seeking, and any steps needed to call it should be taken by the representatives of the Consultative Institution. Up to the present time no reply had been received to this letter. Dr. Saundby finally referred to the issue of advertisements a fortnight previously inviting applications for the posts of consulting physician and consulting surgeon, each of whom was to receive a minimum of £500 a year, and to give his whole time to the Institution; and to the change of policy announced on April 27th by the substitution of another advertisement asking for the services of a physician and surgeon, and specialists in diseases of women, and diseases of the eye, ear, and throat. The minimum salary offered was 200 guineas per annum, and the whole of the receipts to be given to the staff after the deduction of working expenses. The staff were to attend at the Institution at specified times only, and were to be at liberty to engage in private practice. The present meeting had been called in order to afford an opportunity for a fresh expression of opinion, and for the arrival at a definite conclusion as to the attitude to be adopted towards the scheme by the local Consultants and Specialists.

On the proposal of Mr. Bennett May, seconded by Mr. Haslam, it was then resolved, "That this meeting of Consultants and Specialists hereby records its emphatic approval of the steps taken by the Committee appointed by them in July, 1899."

A long discussion then took place in which the following gentlemen spoke, namely, Mr. Lloyd Owen, Mr. Bennett May, Mr. Priestley Smith, Mr. Barling, Mr. Leedham Green, Mr. J. F. Jordan, Dr. Lamb, Dr. Foxwell, Mr. Heaton, Dr. Rickards, Mr. Taylor, Mr. Jordan Lloyd, Mr. Morrison, Dr. Stacey Wilson and Mr. Eales.

On the proposition of Mr. Heaton, seconded by Mr. Wright Wilson, it was resolved unanimously, "That this meeting of Consultants and Specialists is of opinion that the scheme of the Consultative Institution is open to grave objections, and is strongly of opinion that no Birmingham Consultant or Specialist should apply for the posts."

It was proposed by Dr. Stacey Wilson and seconded by Mr. Leedham Green and resolved, "That the Committee be re-appointed, and that Mr. Bennett May be added to the list of its members."

The meeting terminated with a vote of thanks to Dr. Saundby for his conduct in the chair.

University of Birmingham.

FACULTY OF MEDICINE.

First Examination for the Degree of Bachelor of Medicine and Bachelor of Surgery, April, 1901.

PASS LIST.

Elementary Biology (Part I).

Class I.

Aitken, Robert Wallace
Cook, William
Weaver, Alfred Ernest Remmett
Wilkinson, Frederick

Class II.

Astbury, Reginald Hudson
Austin, John Staines
Bunting, Edwin Lancelot
Elwell, Herbert
Greener, Helen Gertrude
Grove, Edith Dora
Gettings, Cuthbert Keay
Gettings, Harold Salter
Hadley, Leonard Leigh
Hawkes, Richard John James
Hayes, Lionel Chattock
Horton, William Claude
Houghton, William Cuthbert
Kenderdine, Ernest Henry
Mackey, Leonard George Joseph
Maitland, Vivian Gray
Pickerill, Henry Percy
Price, Horace John D'Arcy Gerrard
Rollason, George
Rollason, Norman John Lancelot
Thomason, Henry Philip
Walker, Spencer Graham
Ward, Bernard Joseph
Wells, John
Whitcombe, Edmund Stanley

CHEMISTY AND PHYSICS (Part II.)

Class I.

Cook, William
Gettings, Cuthbert Keay
Hawkes, Richard John James
Ravenhill, Thomas Holmes
Thomason, Henry Philip
Weaver, Alfred Ernest Remmett
Wilkinson Frederick

Class II.

Elwell, Herbert
Gettings, Harold Salter
Heseltine, Joseph Richard Ewart
Mackey, Leonard George Joseph
Osborne, Ernest
Ward, Bernard Joseph

FACULTY OF MEDICINE.

Examination for Diploma in Public Health, April, 1901.

PASS LIST.

Parts I. and II.

Bonis, Francis William
Sims, Aaron

New Books, etc., Received.

From Methuen and Co., London—
Diseases of the Heart. By EDMUND H. COLBECK. M.D.

From Charles Griffin and Co., London—
Pernicious Anæmia. By WILLIAM HUNTER, M.D.

From Macmillan and Co., London—
Appendicitis: Its Pathology and Surgery. By CHARLES B. LOCKWOOD, F.R.C.S.

From John Wright and Co., Bristol—
Our Baby. By Mrs. LANGTON HEWER. Seventh edition.

From John Bale, Sons, and Danielsson—
Records from General Practice. By J. KINGSTON BARTON, M.R.C.P.

We have also to acknowledge the following:—
Some Results of Sanatorium Treatment of Phthisis. By D. J. CHOWRY MUTHU, M.D.

The Use and Abuse of the Harrogate Mineral Waters. By ARTHUR ROBERTS, M.D.

In the Review of the following works, which appeared in our previous issue, the names of the publishers were inadvertently omitted:—

A Manual of Modern Surgery, by J. B. Roberts, A.M. London: Rebman Limited, 129, Shaftesbury Avenue. Price 21s. net.

A Manual of the Diagnosis and Treatment of the Diseases of the Eye, by Edward Jackson, A.M. London: W. B. Saunders and Co., 161, Strand.

⁂ Authors can have reprints of articles at the following rates:—

Not exceeding 8 pages	... 8/-	per 100
,, 16 ,,	... 12/6	,,

The re-arranging of the type is the principal cost in the production of these reprints, so that smaller numbers will be the same price. Larger numbers at a proportionate reduction.

The Subscription to the *Birmingham Medical Review* is 6s. per annum, post free.

NOTICE.—*All Communications, Exchanges, and Books for review, should be sent direct to the Printers and Publishers Messrs. Hall and English, 36, Union Street, Birmingham.*

THE
BIRMINGHAM MEDICAL REVIEW.
JUNE, 1901.

ORIGINAL COMMUNICATIONS.

INGLEBY LECTURE.

THE LOWER UTERINE SEGMENT AND THE CONTRACTION RING.*

BY DR. SMYLY.

THE title which I have chosen for this lecture launches me at once into the troubled waters of two debatable questions—namely, What is the lower uterine segment, and what is the contraction ring? From the very awkward dilemma of an open confession of ignorance or an attempt to explain to others what I do not understand myself, I shall endeavour to escape by at once declaring that I intend to consider this subject from a practical, or rather from a practitioner's point of view rather than from the anatomist's or physiologist's standpoint. Nevertheless, it is necessary to preface my remarks with some kind of definition or explanation of what these structures are.

At the commencement of the last century the views of Roederer and Mauriceau were almost universally accepted and taught—namely, that towards the end of pregnancy the cervix was gradually drawn into the uterus until at term the presenting part rested directly upon the external os. The first to seriously contest this erroneous teaching were Mathews, Duncan, and Holst, who, in 1859, from *post-mortem* examination, discovered that the cervix was not shortened at all during pregnancy. Their view was confirmed by Taylor (of New York), Spiegelberg, and Müller, and has never since been questioned. In 1872 Braune, then professor of anatomy in Leipzig, published his famous frozen section of the parturient uterus, which has ever since been a source of contention amongst obstetricians, and, as Barbour expresses it, inaugurated a new era in obstetrics.

---

* Delivered at the Medical Theatre, Birmingham University, May 14.

Bandl was the first to enter the field; and, from a careful investigation of one thousand pregnant women and numerous anatomical specimens, he concluded that the cervix was drawn up during pregnancy so as to form part of the uterine cavity, and that the upper ring described by Braune as the os internum was so in reality, and this process commenced as early as the seventh month, but that the lower or vaginal portion remained as such to the end of pregnancy, and that the lower constriction described by Müller as the os internum was only the upper margin of the undilated portion of the cervix. Since then the exact position of the internal os became uncertain, and it was convenient to speak of these two constrictions as Bandl's and Müller's rings. Bandl's views were, however, soon overthrown by the publications of Shroeder, C. Ruge, Hofmeir, and v. Franke, who contended that the cervix, characterised by its anatomical structure as well as by its mucous membrane, remains entirely, or almost entirely, unchanged until labour commences; that the lower segment of the uterus forms a well defined part of the body from which it differs sufficiently in its anatomical structure and passive condition during labour to merit its separate consideration, but resembles it too closely to be considered a part of the cervix. These views have, however, been strongly opposed by Küstner, Bayer, Zweifel, Kaltenbach, and others, who have rehabilitated Bandle's views in a more or less modified form. They maintain that the cervix is drawn up into the uterus, and that the modification in its anatomical structure, and especially the alteration of its mucous membrane into a decidua, are due to the proximity of and union with the ovum. In favour of this view Kaltenbach calls attention to the remarkable fact that in the fœtus and young child the cervix is longer than the body of the uterus: in the adult they are nearly of equal length, and only in women who have borne children is the uterian cavity longer than that of the cervix. In pregnancy up to the fourth month the cervix shares in the general uterine hypertrophy, and reaches a length of 6 cm. or more. At the end of pregnancy the remaining part of the cervix measures from 3 to 4 cm., which represents only a tenth part of the entire length of the uterus, whilst the thickness of the cervical walls is only one-thirtieth that of the body. After delivery the relations are again altered in favour of the cervix. Under these circumstances it is impossible, he says, to imagine that the small portion below Müller's ring represents the entire cervix. Bayer adduces as evidence in the same direction the fact that the muscular fibres of the cervix are markedly hypertrophied, and that this must be regarded as proof of a general enlargement of the cervix, and since the part below Müller's ring remains the same, the remainder must have been drawn up into the uterus. The presence of a decidual lining he considers insufficient to prove a uterine origin. for the lower segment, since the fact that the cervical mucous membrane can form a decidua has been shown by Küstner, Weiss, and himself. The origin of the lower segment is therefore still uncertain, and four different theories are held at the present time with regard to it:—

1. That it develops during pregnancy.
    (*a*) From the lowest part of the corpus uteri (Shroeder, Hofmeir, C. Ruge, etc.)
    (*b*) From the upper part of the cervix (Bandl, Küstner, Kaltenbach, etc.)
2. That it forms only during labour.
    (*a*) From the cervix uteri (Zweifel).
    (*b*) Both from the body and the cervix (v. Herff).

From what has been already said it is evident that an exact definition of the lower segment is in the present state of our knowledge impossible, and the nearest approach that I can make to it is, in the words of Bayer, " A portion of the uterus which before parturition resembles the body and after it the cervix."

THE LOWER SEGMENT IN PREGNANCY.

In the early months of pregnancy the ovum does not fill the uterus, but in the latter, it not only does so but expands its walls by the excentric pressure of the liquor amnii. At term, the upper and lower parts of the uterine walls contract markedly, the upper being thicker and more muscular with a firmly adherent peritoneum, the lower much thinner with less muscular, more fibrous, and especially more elastic tissue. There is no marked line of distinction, however, but the change is gradual. There is therefore no contraction ring, but its future site is generally marked by the line of close peritoneal attachment and a large vein, the circular sinus. The peritoneum is firmly attached to the upper but separated from the lower segment by loose areolar tissue. In primiparæ at term, the head is usually in the cavity of the pelvis completely surrounded by the lower segment of the uterus.

THE LOWER SEGMENT DURING LABOUR.

When labour sets in, the contrast between the two segments becomes more marked. The upper, contracting during the pains, retracts upwards over the ovum, becoming smaller and thicker as the process proceeds. The upper end of the lower segment is drawn up after it whilst the lower end being driven downwards by the lower pole of the ovum the walls of the lower segment yield and expand. The line marking the division between these two portions of the uterus—the upper or expanding and the lower or dilating zone now becomes more abrupt and distinct and is called the contraction, or Bandl's ring. The position of this ring at the commencement of labour is generally on a level with the pelvic brim, but as labour advances and especially when it is obstructed, it rises higher in the abdomen and may reach the level of the umbilicus or even higher. Shroeder stated that in normal labour towards the end of the first stage the child had already been driven almost completely out of the cotractile portion of the uterus and that the contraction ring could be felt above the breech. This is certainly erroneous and it is probable that the condition which he felt was in some other part of the uterus and was probably the edge of the placental site (Lahs).

This structural division of the uterus into an upper contracting and a lower distensile portion is of the utmost importance in the mechanism of the first stage of labour; for if the organ were of equal strength throughout, the pressure which is evenly distributed would produce no mechanical result. But because the lower part is weaker it yields and the lower pole of the ovum bulges into it. The lower pole of the ovum therefore descends and drives the lower part of the lower segment before it, but as the upper part is at the same time drawn upwards there is a slip or motion in opposite directions between the membranes forming the lower pole of the ovum and the walls of the lower segment, in consequence of which they are separated from each other and a little bloody discharge takes place called by midwives "the shews." The elastic membranes cast off from the uterine wall as far up as the contraction ring and containing liquor amnii form the bag of waters, and as it is distended by the pressure from above, it is forced into and forms the chief dilating force in the expansion of the os and cervix. The force from above, however, is not the full force of the intra uterine pressure but is due to the descent of the presenting part. Were the membranes exposed to the full force of the contracting uterus they would probably rupture, but they are saved from this by the lower uterine segment. In normal labour, the head has already engaged the lower segment, and when it is driven further into it by the pains, it acts like a ball valve completely shutting off the forewaters from those which surround the body of the child. How the lower segment embraces the head during the first stage of labour has not with certainity been determined. According to Hofmeir, it plays a passive role throughout since he thinks it impossible that it could contract and expand at the same time. But the fact that it consists largely of muscular tissue would seem to point to action and it is probable that it actively embraces the presenting part during a pain, and Hofmeir's statement is met by Lahs' with a simple illustration: supposing you flex your forearm upon your arm the biceps contract, but if a stronger person forcibly extends the arm whilst you resist, the muscle, though contracting, is extended. Similarly, the lower segment contracts upon the head whilst the latter distends it. Whether this be so or not, the fact remains that during a pain the lower segment so closely embraces the presenting part that nothing is forced between, and this is one of the most important functions of the lower segment. As the os dilates the lower segment is gradually changed from a hemisphere to a cylinder and the child passes through it and is expelled.

THE LOWER SEGMENT IN THE THIRD STAGE.

In the third stage the lower segment and cervix form a continuous thin walled collapsible tube which affords no support to the upper, which contains the placenta. The upper part therefore sinks down into the pelvis, the fundus usually standing about midway between the pubes and umbilicus. But when the placenta has been expelled from the contractile portion it distends the lower segment and cervix, and the fundus is lifted up above the umbilicus. When this occurs the distended lower segment can be easily felt above the pubes, and closely resembles a distended bladder.

These signs are now of considerable importance with regard to the management of the third stage of labour. Some time ago Crede's method was in vogue. It consisted in rubbing and kneading the uterus to induce contraction and then expressing the placenta usually with the third pain. It was gradually discovered, however, that this active treatment was frequently followed by *post-partum* hæmorrhage and retention of membranes, and that better results were obtained by waiting until the uterus having expelled the placenta it remained firmly retracted. It then became an important matter to know when this had taken place, and this we can tell by three signs, two of which I have already mentioned, namely, the rising up of the fundus above the umbilicus and the bulging of the lower segment above the pubes. The third sign is the protrusion of the cord through the vulva, and in order to observe this the more easily it is advisable to tie a ligature at the vulva, having previously drawn out the cord as far as it will go without force. When this ligature is found five or six inches away from the vulva the placenta has left the uterus. This process usually occupies about half an hour, but Ahlfeld, to whom we are chiefly indebted for the introduction of this more expectant method of treatment, urges a further delay of one hour in order to secure the complete separation of the membranes. Whether this is advisable I am not prepared to say, but in my own practice I always expel the placenta as soon as I am certain that it has left the uterus.

THE LOWER SEGMENT IN ABNORMAL LABOUR.

The importance of the lower segment in normal labour is illustrated and emphasised by the unfortunate results in cases where it fails to perform its normal functions or does so imperfectly. In some pluriparous women, owing to the distensibility of the upper portion of the uterus no lower segment is formed, and in others where it is present its walls are so weak that it is separated from the head by the liquor amnii. In either case the full force of the intra uterine pressure is exerted upon the bag of waters, which is ruptured prematurely. The same result may follow in the case of a presenting part which does not fill and accurately fit the lower segment, or where, as in pelvic deformity the head cannot descend into the lower segment, and close it by its ball valve action.

Under all these circumstances the membranes are exposed to undue strain and premature rupture. The normal hydrostatic dilator is thus lost, and the os is more slowly dilated by the presenting part of the fœtus, which is by no means so well adapted to the performance of the task. In some cases, however, the amnion is so tough and elastic as to be able to withstand the strain of the intra uterine pressure, and it is then driven through the chorion and protrudes into the vagina and even out of the vulva as a sausage-shaped hernia. This it may do even with an undilated os. The bag of membranes being then of a polypoid shape, a globular sac, distending the vagina during a pain which if it be followed up to the cervix during the interval is found to be attached to a thin stalk passing into the os.

PROLAPSE OF THE FUNIS.

When the lower segment firmly embraces the presenting part as it does in normal labour, not only does it prevent the liquor amnii from being forced past it, but, as a matter of course, other parts as well; but when it does not do so, as in the cases already mentioned, and also in hydramnios where the uterus is so distended that the lower segment is separated from the head, and in placenta prævia, small and moveable parts of the fœtus such as its limbs and cord may be driven down. This is the only cause of funic prolapse with which I am acquainted. The sudden rush of liquor amnii which often accompanies the accident is not the cause of it, but results from the same conditions. A long and heavy cord could not enter a normal lower segment, and every cord is long enough to descend where other circumstances permit it to do so. I have frequently been told by students at examinations that the cord is liable to prolapse in pelvic narrowing because the head does not fill the pelvic brim, but this is erroneous because under no circumstances does the head completely fill the brim; and, as I have already explained, it is because the head arrested at the brim does not fill the lower segment that the latter, being forced away from it by the liquor amnii, allows the cord to descend. A. consideration of these facts will explain why efforts at reposition so frequently fail, for so long as the cause remains the result will be the same.

PLACENTA PRÆVIA.

The lower uterine segment plays a most important part in all cases of placenta prævia, for, not only is the growth of the placenta in this part of the uterus the essential feature of the condition, but its protection from injury during parturition is the principal duty of the medical attendant.

How the placenta comes to be developed in this part of the uterus is an interesting question, but it is most probably due to a low implantation of the ovum, and to the involvement of the decidue vera and reflexa in its formation, and that these conditions result from endometritis is almost certain since placenta prævia most frequently occurs in women who have borne many children in quick succession, who have had abortions, and who have suffered from menorrhagia and leucorrhœa, or, in other words, who are suffering from chronic metritis. When the ovum enters the uterus it probably adheres to a part of the mucous membrane prepared for its reception, or slips into a cleft in that membrane ; but when the membrane is rendered unsuitable by disease in that part it becomes attached elsewhere, probably lower down, and if this part be not quite healthy the serotina develops an imperfect placenta, insufficient for the needs of the fœtus. The placental formation, therefore, spreads further afield, involving the reflexa or vera or both. In this way it may spread not only into the lower segment of the uterus but even into the cervix; and cases have been reported by v. Weiss and Ponfick in which it extended to the os externum.

The development of the placenta upon the decidua reflexa is especially interesting, and explains a number of facts observed in these cases which would otherwise be unintelligible. For example, the wide area covered and the extreme thinness often observable in these placentæ; and the position of the placenta over the os uteri; but they are easily understood when we remember the expansion of the decidua reflexa during the growth of the ovum, and its union with the vera in the lower segment. It also explains some remarkable cases recently published in which, though the placenta could be distinctly felt through the os, there was no hæmorrhage during labour. In some cases of uterine catarrh the reflexa fails to unite with the vera, and if this occurred where the placenta had developed upon the former there would be no vascular connection with the lower segment, and therefore no hæmorrhage.

In the vast majority of cases, however, the reflexa and vera unite, and the placenta derives it vascular supply from the lower segment; and as it is only a specially modified portion of the fœtal envelope, when situated at the lower pole of the ovum, it behaves as a part of the membrane—that is to say, it is separated from its attachments as far up as the contraction ring just as they would be under similar circumstances. The vessels of the placental site are thus torn through, and violent hæmorrhage is the result. These hæmorrhages usually commence about the seventh or eighth month of pregnancy, slight at first but recurring with increasing severity. In some cases, however, there is no loss of blood until labour sets in, and these are generally cases of complete placenta prævia, and are probably cases in which owing to the abnormal resistance no lower segment is formed during pregnancy. Hæmorrhage is the only symptom and the chief danger in placenta prævia, and to arrest or control it is the chief duty of the medical attendant, and in order to do so successfully he must carefully consider the conditions which are present.

I have often been told by practitioners that they were astonished at the dilatability of the os in cases of placenta prævia and the ease with which the fœtus could be extracted, but I think it would be more correct to say that it is surprising how easily the cervix and lower segment of the uterus can be lacerated, and we should remember that the extraction of the fœtus is only opposed by a thin and easily ruptured portion of the uterus, still further weakened by the placental site, and so highly vascular that its laceration would entail a hæmorrhage difficult or impossible to control. It is not easy to understand how hæmorrhage from such a placental site is ever controlled by nature. Hofmeir says that the uterine artery gives off no branches directly to the lower segment, and that the vessels going to it pass through the upper part and are therefore constricted when it contracts, but this has been denied by Davidsohn and Lahs, and if they are correct, the vessels can only be closed by the formation of thrombi.

The high mortality which attends placenta prævia is, I believe, due more to a disregard of these important facts and consequent improper treatment than to the inherent dangers of this complication.

The chief causes of death have been hæmorrhage, septic infection, and entrances of air into the veins. Hæmorrhage has proved fatal either from prompt assistance not being at hand, or from misdirected efforts to control it, and amongst the latter I would include the extraction of the child through an undilated os, and the use of the vaginal plug which imperfectly controls the hæmorrhage and by prolonging the process materially increases the total loss. Its use also increases the risk of septic infection.

The method introduced by Doctor Robert Barnes is more scientific and much more successful than either version and extraction or the vaginal plug, but the separation of the placenta, entailing as it does unnecessary fingering of the placental site is contrary to our modern views of aseptic midwifery.

The modern treatment is simple and effective and eliminates almost all the risks. It consists in rupturing the membranes and bringing down a foot at the earliest possible moment, the body of the child pressing on the placenta acts as an efficient and aseptic plug, and the membranes being ruptured no further separation takes place. The great advantages of this method are that it completely arrests the hæmorrhage, that it involves but slight manual interference, and that such manipulations as are necessary are conducted within the membranes, that the child is not extracted, but its expulsion is left to nature so that the cervix is not torn, the uterus remains firmly retracted and the placental vessels securely thrombosed.

In carrying out the procedure the patient should be placed upon her back, since the lateral position usually adopted in this country favours the entrance of air into the veins. If the lower extremity does not present, the child must of course be turned, and preferably by external manipulation, but failing this, by Braxton Hick's method of bipolar version. The vagina should be rendered as aseptic as possible before the introduction of the hand, but no poisonous antiseptic, such as corrosive sublimate or carbolic acid should be used, since the close proximity of open blood vessels renders their use peculiarly dangerous. Very rarely is traction on the foot required and then only sufficient to control hæmorrhage. In no case should the child be extracted.

The comparative merits of the different methods of treatment which I have mentioned are no longer open to discussion but are established by ample statistical proofs and a definite mortality attends the employment of each. In a recent communication Dr. Strassman says that the mortality in the Charité Hospital, Berlin, in cases of placenta prævia treated by version by abdominal manipulation bringing down a foot and leaving the expulsion of the child to nature was only 1·45 per cent. Where the same method was adopted, but with bipolar version, 8·6 per cent., and where version was followed by extraction 20 per cent. The results in the Rotunda Hospital, as published in Dr. Lyle's recent paper in the British Medical Journal, showed that out of 76 cases admitted during the past ten years one which was treated by version and extraction died of hæmorrhage. Amongst the remaining 75 there were three deaths—a mortality of four per cent—but not one of these was from hæmorrhage, two were septic on admission, and one died from pulmonary embolism on the tenth day. There are two conditions in which the treatment which I have advocated is not advisable : firstly, where the head has passed the os and can be more safely delivered by forceps, and secondly, where the os is not sufficiently dilated to admit two fingers. In such cases I should advise the plug but they must be exceedingly rare, for I have never met with one myself, and Dr. Strassman says that in the Charité the plug was never required.

THE LOWER SEGMENT IN RUPTURE OF THE UTERUS.

The lower segment of the uterus is the part most frequently involved in rupture. The accident is sometimes due to an abnormal weakness in this part of the organ, which has been attributed to chronic metritis or fatty degeneration; but although this is probably true, it has not yet been directly confirmed by *post-mortem* examination. In such cases it may occur suddenly and quite unexpectedly, and even before the rupture of the membranes; but, as a rule, rupture is preceded by violent and prolonged efforts to overcome an obstruction. In such cases the upper part of the uterus contracting strongly to overcome the resistance retracts over the fœtus, driving it into the lower segment, which consequently becomes over distended and its walls thinned out until at last they give way. The signs of impending rupture are, under these circumstances, sufficiently evident ; on palpation the contraction ring can easily be felt at or above the level of the umbilicus running obliquely across the abdomen. The part of the uterus above it is thick and firm, and fœtal parts can scarcely be distinguished within it, whilst below it, on the contrary, they can be felt with unusual ease. The round ligaments stand out like firm cords but only one can, as a rule, be felt. Where these symptoms are present the walls of the lower segment are stretched to the bursting point, and any attempt at version would be attended with serious risk, indeed the mere introduction of the hand in addition to the body of fœtus has determined the catastrophe. The application of forceps would be almost equally dangerous. Indeed, under any circumstances the use of this instrument before the full dilation of the os and before the head has passed the brim is extremely hazardous, and has frequently caused a rupture of the cervix extending into the body of the uterus. I have already mentioned, in speaking of placenta prævia, the risk which attends extraction of the child through an imperfectly dilated os, and the same remarks apply in a minor degree to the same proceeding, if carried out under other circumstances, especially in cases of accidental hæmorrhage, and I cannot see why a practice which yields a mortality of 20 per cent. in the one case should have much better results in the other.

Lastly there is a form of rupture of the lower segment, owing to the crushing and subsequent necrosis of its tissues, between the head and the pelvis. It is not so easily recognised as the other forms, because symptoms do not appear until some time after labour, when the sloughs separate and a utero-vesical fistula reveals the fact, or a fatal peritonitis carries off the patient. In these cases also the forceps has caused most serious injury, the crushed tissues so easily giving way that part of the entire cervix has been tore off.

THE CONTRACTION RING AS A CAUSE OF DISTOCHIA.

Our attention has been called to this subject chiefly by French observers: Budin, Chavanne, Cheron, Damelin, Meurer and others, having reported cases in which a constriction above a distended portion of the uterus was believed by them to have been the contraction ring. In determining this point we are unfortunately limited almost entirely to clinical observation, for the contraction being a vital phenomenon disappears with life, but in a frozen section published by Doctor Barbour, the fœtus shows a mark left by the contraction ring. The constriction may occur before, during, or after the expulsion of the fœtus. It has been observed before the rupture of the membranes constricting the bag of waters, and after the waters have escaped, obstructing the advance of the head. During the expulsion of the child it may grasp the neck, preventing the descent of the shoulders. In twin pregnancies, it incarcerates the second child after the first has been expelled (Budin and Rossa). But the most familiar example is the retention of the after-birth by so called "hour-glass contraction" of the uterus.

Dr. Rossa of Gratz, who has published some very interesting and instructive examples of this complication, describes three varieties:—

1. A contraction occuring during a few pains, disappearing in the intervals and easily overcome by the advance of the fœtus.
2. A permanent constriction associated with tetanus uteri.
3. A constriction which continues during the intervals but increases during the pains and associated with a diminution of the entire contractile portion of the uterus and therefore only met with at an advanced stage of labour.

In normal labour the contraction ring is dilated by the resistance of the uterine contents and the excentric tension of the longitudinal fibres of the uterus. Its contraction is therefore due to a loss of resistance in the uterine contents at the site of the ring, diminished excentric tension, and possibly to an abnormal development of the circular fibres of the ring. Veit denies that the ring can contract per se but that it does so as a part of the contractile portion of the uterus, and this is generally admitted as correct, but that does not prevent its contraction being a cause of distochia. The conditions described as necessary by Rossa are present when no presenting part occupies the lower segment, as after the birth of a child, or where the part of the fœtus corresponding to the ring is small; for example, the neck; and contraction is especially liable to occur when the head is not normally flexed, and Schatz's observation that the majority of cases of persistent brow presentation are due to the internal os grasping the neck may be more properly ascribed to the contraction ring. The contraction of the ring which immediately follows the escape of the waters is seldom of much consequence, because it relaxes during the interval, and a large part of the fœtus enters and dilates it during the succeeding pains; but the contraction which occurs after the patient has been long in labour is a more serious cause of distochia, because the contractile portion of the uterus having become permanently smaller, the relaxation during the interval is only relative, and no advance takes place. In a case of twins recorded by Budin he delivered the second child by forceps under these circumstances with considerable difficulty. And Rossa, in a similar case, had considerable trouble in performing version and extraction, and in that case the condition persisted in the third stage incarcerating the placenta. Rossa also states that where the fœtus has been driven into the lower segment the contraction of the ring above it by making traction on the thinned and over-distended wall may determine its rupture.

It has been suggested by some critics that the constricting ring was not the contraction ring but the internal os. This may have been so in some of the cases, but certainly not in all. In one of Rossa's cases, for example, the hand when first introduced to perform version could detect no constriction, but as soon as the membranes were ruptured it was grasped by a firm ring closing upon it. This ring relaxed during the interval but returned with the next pain. This could not possibly have been the undilated os and was, he most certainly believes, the contraction ring, since the variation of contraction and relaxation could not be explained in any other way.

Treatment.—Budin regarding the stricture as the chief cause of distochia advises its mechanical dilatation; but Veit, on the other hand, considering it only a part of a general tetanic condition, believes that patience and narcotics will suffice. There are cases however in which we cannot wait and in these the fingers and hand are the best dilators.

I think that the facts which I have now brought before you are sufficient to prove the importance to the practitioner of a careful study of the lower segment of the uterus and the contraction ring; and if I have impressed you with a serious view of the dangers resulting from ignoring them my task has been accomplished.

THE BLOOD, FROM A CLINICAL ASPECT.*

BY J. G. EMANUEL, M.B., B.S., B.SC. (LOND.),
PATHOLOGIST, THE GENERAL HOSPITAL, BIRMINGHAM.

Mr. President and Gentlemen,

When, at the request of your President, I undertook to write a paper on Blood, worthy of this society, I little thought what trouble I had brought on myself, or what a trial I was going to inflict on you. I once imagined I could say all that was known of blood in about half an hour. I now know I could not give a synopsis even of the work that has been done in many hours. It is a vast subject, and I have had to be satisfied with altogether omitting many most interesting points, and with merely touching on many others, each of which would readily form the subject of a paper by itself. For the very many shortcomings therefore of this paper I claim your indulgence. And let me say at starting, particularly to the senior members of this society, that if my paper contains too many well-known and well-worn facts, or has the ring of too much dogmatism, let me say, it has been more especially prepared, also at your President's request, for the benefit of the younger members of this society, to whom dogma is often refreshing in the search after truth in Medicine and Surgery.

First, then, a few words as to the different varieties of cells found in the blood.

---

* Read before the Medical Society of the Birmingham University, on February 6th, 1901.

THE BLOOD CORPUSCLES.

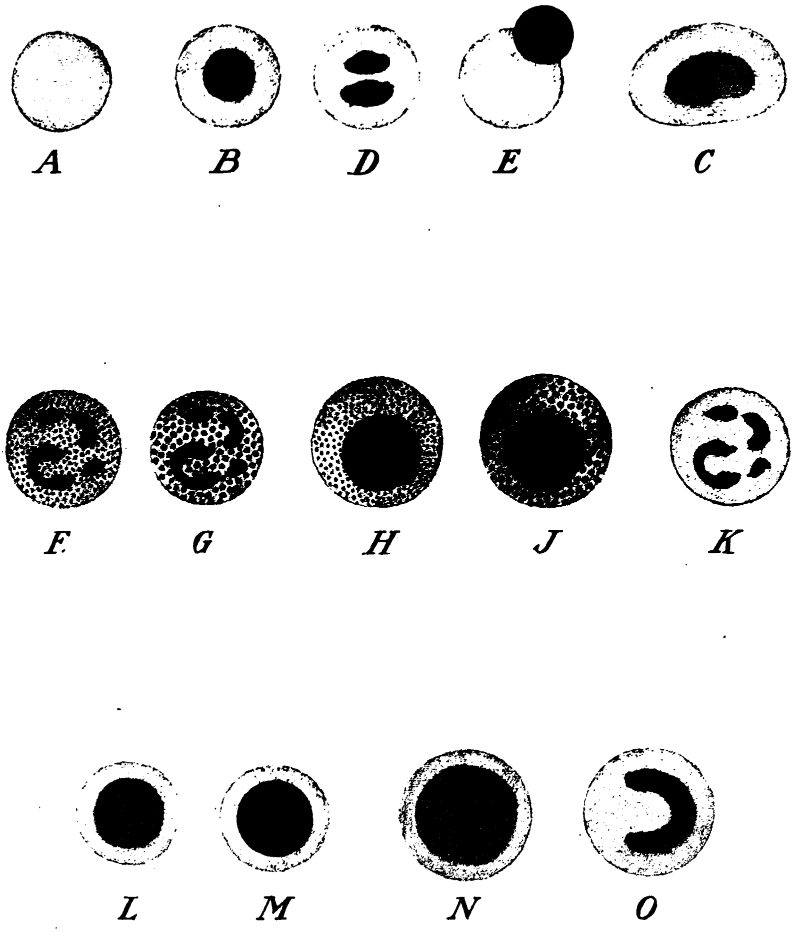
RED.—Average number 5,000,000 per cubic millimetre.

Place of Origin		
Bone Marrow	A.	Erythrocyte — The Ordinary Red Blood Corpuscle.
	B D E.	Normoblast — Regenerative cell found in all severe anæmias.
	C.	Megaloblast — Degenerative cell found in fatal anæmias.

WHITE.—Average number 5,000 – 10,000 per cubic millimetre.

Place of Origin		Percentage in Normal Blood.	Increased in
Bone Marrow (Granular Cells)	F. Polymorphonuclear Neutrophile	70 – 72	Leucocytosis
	G. Polymorphonuclear Eosinophile	2 – 4	Eosinophilia
	H. Neutrophilic Myelocyte ...	Pathological	Myelocytæmia (Myelogenic Leukæmia)
	J. Eosinophilic Myelocyte ...	Pathological	
	K. Mast Cell	0·5	
Lymphatic System (Non-granular Cells)	L M. Small Lymphocyte	22 – 25	Lymphæmia (Lymphatic Leukæmia)
	N. Large Lymphocyte ...	2 – 4	
	O. Transitional		

DIAGRAM OF THE BLOOD CORPUSCLES.



The Red Corpuscles. Of these there are three varieties.

1. *Erythrocyte* (Fig. A), or the ordinary red corpuscle.—This needs no description. . In man, at all events, it is a non-nucleated biconcave disc of protoplasm.

2. *Normoblast* (Fig. B).—This is a nucleated red blood corpuscle of normal size.

3. *Megaloblasts and Gigantoblasts* (Fig. C).—These are nucleated red corpuscles of excessively large size.

Let me say, in starting, that there is an enormous difference both in appearance and in significance between a normoblast and a megaloblast : The *size* of a normoblast is that of a red blood corpuscle, while a megaloblast is three or four times as large.

The *Protoplasm* of a normoblast is a pure colour. In a megaloblast it is a mixed colour, indicating a degeneration termed polychromatophil degeneration.

The *Nucleus of a Normoblast* may be single or divided into two (Fig. D), three, or four. It forms the greater part of the cell. It is sharply defined, stains deeply, and is structureless. It is so characteristic in appearance that it is quite easy to recognise when lying free from the corpuscle in a blood film. These nuclei are often seen partly extruding from the corpuscle (Fig. E), and sometimes lying quite free from any corpuscular elements. These are the characteristics of an old nucleus, and it is generally thought that these nuclei leave the normoblast, and so give rise to the ordinary non-nucleated red corpuscle. Physiologically this process goes on in the bone marrow. In anæmias, however, there is so great a demand for the formation of new red blood corpuscles that it is not possible for the process, so to speak, to get finished in the bone marrow, and accordingly the normoblast passes into the blood stream, there gets rid of its nucleus, and henceforth takes on the rôle of an ordinary red corpuscle.

The *Nucleus of the Megaloblast*, however, is single, does not form so large a part of the cell, is not sharply defined, stains faintly, and shows a good deal of structure. These are the characteristics of a *young* nucleus. These megaloblasts never occur in the bone marrow of adults normally, but are found in the bone marrow in embryos and in early extra-uterine life. When found in the bone marrow of adults it means that an attempt is being made by the bone marrow to produce new red blood corpuscles, but without success, and that accordingly a reversion to the embryonic type is resorted to. Normoblasts on the other hand simply indicate a new formation of red blood corpuscles in the proper manner, but going on (as far as the final stage goes—the extrusion of the nucleus) in the blood instead of in the bone marrow. Hence, normoblasts are found in all severe anæmias and show that the blood is being regenerated, and therefore are of good import. Megaloblasts, however, only occur in fatal cases of anæmia and show that regeneration of the blood has failed. They are therefore of serious import.

The White Corpuscles. These I divide into two main classes, and the distinguishing feature is the presence or absence of granules. This difference corresponds to another most important difference and that is the place of origin of these two varieties of white corpuscles. The nongranular cells come from the lymphatic system, the granular cells from the bone marrow. The granular cells being the more important, let us turn our attention to these first. These are subdivided according to the staining properties of the granules into neutrophiles, eosinophiles, and basophiles. Allow me to digress in order to explain these terms. The dyes used for staining are complicated salts containing an acid and a base, just as a simple salt like sodium sulphate contains an acid, sulphuric acid, and a base, soda. When we say a stain is an acid stain, we mean that the important ingredient of the complicated salt representing the stain occupies the acid part of the salt—*e.g.*, ammonium picrate is an acid stain (because picric acid is the important ingredient of the stain), while rosaniline acetate is a basic stain (the base rosaniline being the important ingredient of the stain), and rosaniline picrate is a neutral stain, being a mixture of a base, rosaniline, and an acid, picric acid.

The stain I am in the habit of using is the so called triacid mixture of Ehrlich. Little wonder that there is difficulty in grasping this complicated mixture, because to begin with its name is a misnomer—it is not triacid, but consists of two acid stains and one basic stain. It consists of a mixture of three stains:—

(1) *Orange Green*, an acid stain like ammonium picrate;

(2) *Acid Fuchsin*, another acid stain; and

(3) *Methyl Green*, a basic stain like rosaniline acetate.

The neutral stain in Ehrlich's mixture is formed by a mixture of the methyl green, the basal stain, with one or both the acid stains. Therefore, when we speak of *Eosinophiles* or *Acidophiles*, we mean cells whose granules pick out of the Ehrlich mixture the acid stains. When we speak of *Neutrophiles*, we mean cells whose granules pick out of the mixture the neutral stain (formed we have seen by a mixture of acid and basic stains). Lastly, when we speak of *Basophiles*, we mean cells whose granules pick out the basic part of the mixture, the methyl green.

The Granular Cells. Of these, we find four main varieties, whose names at first sight appear a little formidable, but which on closer acquaintance are found to explain themselves. These four varieties are distinguished by their nuclei and their granules. Two have twisted nuclei and form the so called *Polymorphonuclear Cells*, while the other two have a single nucleus and are called *Myelocytes.* Each of these varieties is subdivided according as to whether the granules are neutrophilic or eosinophilic, and this gives us four main varieties:—

1. *The Polymorphonuclear Neutrophile* (Fig. F).—The ordinary white corpuscle, with a twisted irregular nucleus like an S Y E or Z, staining deeply, well defined, and centrally placed. The granules are fine, and stain with neutral dyes. Normal number 70–72 per cent.

2. *The Polymorphonuclear Eosinophile* (Fig. G).—This is a similar cell so far as the nucleus goes, but the granules are

different. The granules are eosinophilous or acidophilous, staining with acid dyes, and staining a different colour. The difference in colour of the granules is only, however, one point; the granules themselves are different. The granules are coarser and larger, and, most important of all, highly refractile. They are the most striking granules met with. Normal number 2–4 per cent.

3. *Neutrophilic Myelocyte* (Fig. H).—This resembles the polymorphonuclear neutrophile as far as the granules are concerned, but it possesses an altogether different nucleus. The nucleus is single, large, round or oval, stains faintly, and is eccentric as a rule. Does not occur normally in the blood.

4. And, lastly, *Eosinophilic Myelocyte* (Fig. J).—In this the nucleus is like that in the neutrophilic myelocyte, but the granules are eosinophilous. The myelocytes are rather larger cells than the polymorphonuclears. The myelocytes, whether eosinophilous or neutrophilic, do not occur in normal blood. Their presence is pathological. They are found in the bone marrow, and only appear in the blood under pathological conditions. When they occur in large numbers they cause the myelogenic variety of leukæmia.

All these four varieties are found, in health, in the bone marrow, but it seems that under normal conditions the cells cannot pass over into the blood stream with a large single nucleus. It seems as if the nucleus must become narrower and twisted if it is to pass from the bone marrow into the blood stream. When, however, the bone marrow is diseased, as in leukæmia, then these single nucleated cells, the myelocytes, do pass over and in great numbers.

There is a fifth variety of granular cell which must receive mention, as it occurs in small numbers, 0·5 per cent, in normal blood. I refer to the *Mast Cell* (Fig. K) The mast cells are increased in numbers in leukæmia and certain other diseases, but their significance is not understood. Their nuclei are polymorphic, like the ordinary leucocyte, but their granules are neither eosinophilous nor neutrophilic, but are basophilic, *i.e.*, they stain with basic stains; and, moreover, have this peculiarity, that the stained granules are metachromatic, *i.e.* stain different colours. The Ehrlich triacid mixture does not stain these granules, and the cells are therefore readily distinguished as clear cells, free from granules but with a polymorphic nucleus The metachromatic granules are, perhaps, best seen by staining with a saturated aqueous solution of thionin.

The *Non-granular White Corpuscles.* These are called *Lymphocytes.* There are three varieties—

1. *The Small Lymphocyte*, a cell, the size of a red blood corpuscle, with a round central nucleus staining sometimes deeply (Fig. L), sometimes faintly (Fig. M), but bearing a small peripheral zone of faintly staining protoplasm, often difficult to distinguish at all, so that the cell appears all nucleus. Normal number 22-25 per cent.

2. *Large Lymphocyte* (Fig. M) —A large variety of the previous form, but with a pale staining nucleus not occupying so large a part of the cell. There may be every intermediate size between the large and small lymphocyte present in the same blood.

3. *Transitional forms.*—These are cells the size of the large lymphocyte, but with a notched or horse-shoe shaped nucleus. Sometimes there are a few scattered granules, which though not staining with Ehrlich's triacid, do stain with basic stains like methylene blue. Normal number of (2) and (3) together 2-4 per cent.

I must confess to you that all forms of lymphocytes do possess a few scattered basic granules at their periphery, and that while these granules do not stain with the Ehrlich mixture, they do stain with methylene blue. This, to my mind, is one great advantage of the Ehrlich stain. Its use prevents the possibility of mixing up one of these lymphocytes with a myelocyte, and reference to the diagram shows the obvious difference between these two cells is the presence or absence of granules.

Having briefly described the cells found in normal blood, let us turn our attention to the changes in these cells which occur in disease, and first let us consider anæmia.

Anæmia is best considered under the headings of—

Primary Anæmia, *including Chlorosis* and *Pernicious Anæmia*, resulting from no known cause;

and *Secondary Anæmia*, resulting from such causes as—

Hæmorrhage.
Specific fevers—typhoid and scarlet fever.
Malignant disease—carcinoma and sarcoma.
Chronic suppuration—spinal caries, hip joint disease, chronic dysentery.
Malaria.
Hepatic cirrhosis.
Chronic nephritis.
Intestinal parasites.
Poisons—Arsenic, lead.
Bad hygienic surroundings.
Pregnancy, lactation, etc.

To take *secondary or symptomatic anæmia* first, the changes in the blood naturally vary according to the degree of the anæmia, and we may speak of four degrees. The first change and the only one that may be present in—

(*a*) *Mild cases* is—

(1) *Lack of hæmoglobin*, *i.e.*, some red corpuscles are pale, and so the percentage of hæmoglobin is lowered.

(*b*) *Moderate cases* are characterised in addition by—

(2) *Poikilocytosis.* The red corpuscles acquire an unusual shape.

(3) *Loss of power to form rouleaux in fresh preparations.*

(4) *Polychromatophil Degeneration*, *i.e*, the protoplasm of the red corpuscle stains a mixed colour instead of an uniform colour. It is a sign of degeneration leading to a coagulation necrosis of the protoplasm of the red corpuscle.

(5) *Decrease in average diameter of red corpuscle.*

(*c*) In *Severe* cases we get in addition—
  (6) *Diminution in number of Red Corpuscles.*
  (7) *Presence of Normoblasts.*

(*d*) And in *Very Severe* cases—
  (8) The additional presence of *Megoloblasts.*

These changes occur in all anæmic blood no matter what the cause. The changes are confined to the red cells. The white cells are unaffected as a rule, but very often in secondary anæmia there is an increase of white cells—a leucocytosis.

Average Blood count in severe case of Secondary Anæmia would be	R. B. Cps., 2,500,000 = 50 per cent.	
	W. Cps., 8,000 or 11,5000	Lymphocytes—diminished relatively. Poly. Neuts.—increased relatively.
	Hæmoglobin 40 per cent.	

In Primary Anæmias the blood changes are different in the two varieties.

(*a*) In *Chlorosis* we have the changes I have just enumerated as characteristic of secondary anæmia, but with the following differences:—

(1) The red corpuscles are uniformly pale and small. In secondary anæmia, normal cells occur among pale and small cells.

(2) In Secondary Anæmia, leucocytosis is common, but leucocytosis is rare in chlorosis.

(3) In Chlorosis the lymphocytes are generally increased (relatively to the polymorphonuclears). In secondary anæmias the lymphocytes are diminished.

(4) In Secondary Anæmias, normoblasts are common, but rare in chlorosis.

Average blood count in Chlorosis would be	R. B. Cps., 4,000,000 = 80 per cent.	
	W. Cps., 7,000	Lymphocytes—increased relatively. Poly. Neuts.—diminished relatively.
	Hæmoglobin 40 per cent.	

(*b*) *What now are the characteristics of the blood in Pernicious Anæmia?*

In chlorosis we have seen the red blood corpuscles are small cells, pale in colour, and show no great diminution in number.

In pernicious anæmia the red blood corpuscles are large cells, of good colour, but greatly diminished in number.

In Pernicious Anæmia—

(1) *The Red Corpuscles* number about 1,000,000.
(2) *The White Cells* are diminished, generally under 4,000.
(3) *The Hæmoglobin* though diminished absolutely, is relatively increased.

Average blood count in *Pernicious Anæmia*	R. B. Cps., 1,200,000 = 24 per cent. W. Cps., 3,800 { Lymphocytes 45 per cent. Myelocytes 2 per cent. Hæmoglobin 26 per cent.

Besides these numerical changes—

(4) *The Average Diameter* of the red cell is increased.
(5) *Megaloblasts* are present.
(6) *Poikilocytosis* is well marked.
(7) *Polychromatophil Degeneration* is well marked.
(8) *Lymphocytosis* is common, amounting to an average of 45 per cent., chiefly the small forms—and this in spite of a leucopenia. This percentage of lymphocytes may rise as death approaches and so gives us an element in prognosis.
(9) *Myelocytes* are generally present in small numbers, averaging 2 per cent.

The characteristic features of primary anæmia is undoubtedly the presence of megaloblasts. But it must be borne in mind that megaloblasts may be present in our fourth degree of secondary anæmia—the very severe cases. There is, however, a difference, and that difference is this. In *Secondary Anæmia* the megaloblasts are never more common than the normoblasts, whereas in pernicious anæmia, although not very numerous, the megaloblasts are more numerous than the normoblasts. I have already said that while the normoblast is a cell characteristic of regenerative changes, the megaloblast is an embryonic type of cell showing regeneration has failed, and Ehrlich very appropriately speaks of pernicious anæmia as a "megaloblastic degeneration of the bone marrow in which the bone marrow produces megaloblasts instead of normoblasts, its true function. The cause of this degeneration is probably a specific intoxication, but we know not the nature of the toxin."

Before leaving the subject of anæmia, allow me to say a word about the commonest form of anæmia met with in surgical practice—the anæmia caused by hæmorrhage of any sort—internal or external.

After a hæmorrhage the *red corpuscles* are diminished in numbers and *the hæmoglobin* is diminished, but the *leucocytes* are invariably increased.

e.g. In a case of Bleeding from Piles, the count was

R. B. Cps.,	2,200,000
W. Cps.,	28,000
Hæmoglobin	33 per cent.

This leucocytosis will be present even in so small a hæmorrhage as a cerebral hæmorrhage in which the hæmorrhage is so slight in amount that neither the red corpuscles or the hæmoglobin are diminished.

This leucocytosis, which follows hæmorrhage, may be of the greatest use in diagnosis, *e.g.*, between cerebral hæmorrhage on the one hand, and cerebral concussion or compression or narcotic poisoning on the other hand. While the leucocytosis indicates presence of a hæmorrhage, the number of red corpuscles indicates the amount of the hæmorrhage.

Now for a few words as to the blood, in *Leukæmia*, *Hodgkin's Disease*, *Tubercular Adenitis*, *malignant disease* with enlargement of lymphatic glands, and glandular enlargement due to *syphilis*.

LEUKÆMIA OR LEUCOCYTHÆMIA.

While the most obvious change in the blood in leukæmia in most cases is the enormous increase in white cells, we must not depend upon this for our diagnosis. We must most carefully bear in mind that a patient may have leucocythæmia with a normal number of white cells, whereas a count of say 100,000 we may find is not due to leucocythæmia, but to lobar pneumonia. The diagnosis of leukæmia depends upon the kind of white cell present in the blood rather than upon the number of white cells.

Under the heading of leukæmia we distinguish *myelocytæmia* and *lymphæmia*, two absolutely different diseases, still called in our text books spleno medullary and lymphatic leukæmia.

These names, however, are not so good, in my opinion, as those I have used, because they carry with them no definite information either as to the changes in the organs affected or as to the changes in the blood.

In *Splenomedullary Leukæmia* we recognise a disease associated with

(1) Great hypertrophy of the spleen.
(2) Marrow changes.
(3) Little or no enlargement of lymphatic tissue.
(4) A duration of 4-5 years,

and characterised by one, and one only, essential change in the blood—namely, an inrush from the bone marrow into the blood stream of myelocytes. Hence the name Myelocytæmia.

In *Lymphatic Leukæmia* we recognise a disease associated with

(1) Enlargement of internal or external lymphatic glands, or both.
(2) Spleen may or may not be as large as in splenomedullary leukæmia.
(3) A duration of 3–6 weeks in acute cases, and of two, three, or four years in chronic cases,

and characterised by one, and one only, essential change in the blood—namely, an enormous inrush from the lymphatic system into the blood stream of lymphocytes. Hence the term *Lymphæmia.*

Average blood count in a case of Splenomedullary Leukæmia or Myelocytæmia.	R. B. Cps., 300,000.		
	W. Cps., 450,000	Poly. Neuts.	45 per cent.
		Myelocytes	35 „
		Lymphocytes	10 „
		Eosinophiles	5 „
		Mast Cells	5 „
	Hæmoglobin 50 per cent.		

W. Cps. : R. B. Cps. = 1 : 7 instead of 1 : 750 in normal blood.

Qualitative changes.—Red Cells.—The characteristic is that the numerous nucleated red corpuscles are altogether out of proportion to the amount of anæmia. Both normoblasts and megaloblasts are present, but the normoblasts predominate.

This, as we shall see later, contrasts with the condition met with in lymphatic leukæmia, where nucleated red corpuscles are rare, and only present if much anæmia is present. The explanation, probably, is in splenomedullary leukæmia we have a disease of the bone marrow, the nursery, so to speak, of the nucleated red corpuscles; whereas in lymphatic leukæmia the blood marrow is not affected.

White Cells.—The characteristic is the enormous numbers of myelocytes, white cells without the amœboid movements possessed by the polymorphonuclear neutrophiles.

The large number of myelocytes, 35 per cent., is diagnostic, although myelocytes occur in small numbers in other diseases. But between the largest number of myelocytes recorded in any other disease and the smallest number recorded in leukæmia there is a difference as great as between the minute traces of sugar found in normal urine and that found in a marked case of diabetes mellitus.

The *Polymorphonuclear Neutrophiles* 45 per cent. are increased absolutely, but diminished in percentage. A characteristic point is the great difference in size and colour of these cells and their nuclei contrasting with the uniformity of the cells met with in leucocytosis.

The *Lymphocytes* 10 per cent. are increased absolutely, but diminished in percentage.

The *Eosinophiles* 5 per cent. may be increased or diminished in percentage, but are increased absolutely.

The cell characteristic of myelogenic leukæmia is *not* the eosinophile, but the myelocyte.

The eosinophiles may have a twisted or a single nucleus, *i.e.*, may be polymorphonuclear eosinophiles or eosinophilic myelocytes.

The ***Mast Cells*** are increased, may be to 5 per cent.

LYMPHATIC LEUKÆMIA.

This may be ***Acute***, lasting any time up to six weeks, or *Chronic*, lasting any time up to two, three, or four years.

Average Blood count in Chronic case
R. Cps 3,000,000
W. Cps. 100,000
Lymphocytes 95 per cent.
Poly. Neuts. 4 per cent., *i.e*, as rare as Eosinophiles in normal Blood.
Eosinophiles, Myelocytes } 1 per cent.
Hæmoglobin 40 per cent.

W. Cps. : R. B. Cps. = 1 : 30, instead of 1 : 7, in Myelogenic Leukæmia.

Qualitative Changes:—*Red Cells.*—***Nucleated Red Cells***, as already mentioned, are comparatively rare, and proportionate to amount of anæmia present.

White Cells.—The characteristic is the enormous increase of the *Lymphocytes*, small, or large, or both, at the expense of the other forms of white cells.

The differences in the Blood of Acute and Chronic cases are—

1. Far greater anæmia in acute cases. The Red Corpuscles are often as low as 1,500,000.

2. Larger number of nucleated red cells, as a consequence of the greater anæmia.

3. Large lymphocytes predominate over the small lymphocytes in acute cases.

HODGKIN'S DISEASE—PSEUDO-LEUKÆMIA—LYMPHADENOMA.

This is characterised by a ***glandular enlargement*** (including internal and external glands as well as the lymphoid tissue of liver and spleen), together with a ***progressive anæmia.***

Cases may be ***acute***, lasting only a number of weeks, or *chronic*, lasting a number of years.

Blood changes.—In early stages the Blood is *normal.*

Later on we get *Secondary Anæmia* of greater or less severity. Leukocytosis may be present in small amount, and probably indicates inflammation going on in some of the glands.

We cannot distinguish between *Hodgkin's* and *Leukæmia* without examination of the blood.

We cannot distinguish between so-called Acute *Hodgkin's* and *Lymphosarcoma* even by a blood examination. Surgeons therefore are in the habit of treating both diseases as the graver—viz., lymphosarcoma, and are right in doing so; *i.e.*, they remove the enlarged glands, provided they can remove all that are enlarged. For my part I recognise no essential difference either clinical, hæmatological, or histological, between lymphosarcoma and acute Hodgkin's. The short history of a case of lymphosarcoma and the presence of a severe anæmia suffice to distinguish this disease from a case of chronic Hodgkin's.

In *Tubercular Adenitis* the blood is normal, or there may be leukopenia.

In *Glandular Enlargement due to Syphilis* leucocytosis is generally present.

In *Cancer or Sarcoma, with Enlarged Glands*, marked leucocytosis is generally present.

A word as to the *Blood in Malignant Disease* generally. Small tumours, slowly growing tumours, and early stages of all tumours do not seem to produce any change in the blood. In the later stages, however, the blood becomes affected, and we get practically those changes already enumerated under secondary anæmia, and these changes may be very severe indeed, and are generally more severe in sarcoma than in carcinoma. Though no characteristic changes can be formulated, it is often of the greatest value in doubtful cases to make a careful blood examination, and often the examination will repay us—*e.g.*:

Myelocytes in small number (0·5 per cent.) occur more often in malignant disease than in any other condition, except leukæmia and pernicious anæmia.

Leucocytosis is often present. This, if present in an obscure case of anæmia (hæmorrhage being excluded), will at once separate suppuration and malignant disease from tubercle, syphilis, and functional trouble. Given a tumour, leucocytosis is in favour of its being malignant.

In diagnosing between *Gastric Ulcer* and *Cancer of the Stomach*, the presence of a digestion leucocytosis will go against cancer.

A large number of *Eosinophiles*, *Myelocytes*, and nucleated red blood corpuscles in a case of malignant disease will suggest bone metastates.

The *Lymphocytes* are generally decreased in malignant disease.

EOSINOPHILIA.

Eosinophilia — an increased percentage of eosinophiles. I have already said that eosinophilia is not characteristic of leukæmia. It occurs in many other conditions as well, and although the true significance of an increased percentage of eosinophiles may not be obvious, it is important to recognise the fact that it is by no means uncommon.

Eosinophilia then besides occurring in—

1. *Leukæmia*, occurs normally also in

2. *Infants*.—The percentage of eosinophiles in infants is higher than in adults. It also occurs in

3. *Certain Skin Diseases*. A high percentage is often found in *Pemphigus* and in other acute and chronic skin diseases, *e.g.*, *Prurigo*, *Psoriasis*, *Urticaria*, &c.

4. *Helminthiasis*—intestinal worms.

As many as	17	per cent.	have been	counted in	*Ankylostomum duodenale.*
"	16	"	"	"	*Oxyuris.*
"	19	"	"	"	*Ascarides.*
"	34	"	"	"	*Tænia.*
"	68	"	"	"	*Trichinosis.*

Osler quotes a case in which the diagnosis of trichinosis was made in an obscure case from the enormous numbers of eosinophiles present in the blood. The diagnosis was later on confirmed.

5. *Bronchial Asthma* 10–20 per cent.

Eosinophilia occurs in Bronchial Asthma—

(1) At time of paroxysm ;
(2) Shortly before it ; and
(3) Shortly after the attack.

This knowledge will allow us to predict an attack in a patient subject to asthma, and more important than this, allows us to distinguish pure bronchial asthma from cardiac or renal asthma, in which diseases eosinophilia does not occur.

6. *Post Febrile Eosinophilia* occurs after the *Crisis of Acute Pneumonia* and after *Acute Articular Rheumatism*, and after other Fevers.

At the height of these fevers the eosinophiles are diminished, but become increased in the post febrile periods. They thus contrast with the other leucocytes—the polymorphonuclear neutrophiles, which are increased during the fever and diminished as the fever abates.

7. *Malignant Tumours*, especially in lympho sarcoma, and especially if bone metastases occur.

8. *After Splenectomy* and in *Chronic Splenic Tumours*.

MYELOCYTES.

Besides occurring in *Leukœmia*, 35 per cent., and in *Pernicious Anœmia*, 2 per cent., myelocytes are also found in small numbers in

1 All conditions associated with *Leucocytosis*—*e.g.*, *Pneumonia*, *Septicœmia*, *Diphtheria*, etc. ; and

2. In all grave Anæmias—*e.g.*, *Chronic Malaria*, *Hodgkin's Disease*, *Advanced Phthisis*, *Advanced Malignant Disease*, etc.

LYMPHOCYTOSIS.

Relative Lymphocytosis is very common —*e.g.*, in

Infants, especially after any debilitating disease, like gastroenteritis.

Children, especially in hereditary syphilis.

Adults, in syphilis, chlorosis, pernicious anæmia, etc.

Absolute Lymphocytosis is rare apart from lymphatic leukæmia.

LEUCOCYTOSIS.

This we may define as an increase in the polymorphonuclear neutrophiles. We will consider Leucocytosis under the headings of *Physiological* and *Pathological Leucocytosis.*

PHYSIOLOGICAL LEUCOCYTOSIS.

1. *Leucocytosis of Digestion.*—Fasting lowers the count of leucocytes. Thus, in the case of Succi, the professional faster, 1,530 was his average count.

In *Cancer of Gullet* a similar low count exists.* After meals the leucocytes are raised about 33 per cent., so that a count of 10,000 before a meal becomes a count of 13,000 after a a meal. This is the leucocytosis of digestion. The chief importance of this knowledge is the possibility of its being the cause of false influences. To avoid this, if possible, take a count before breakfast, because the leucocytosis takes some hours (3–5) to reach a maximum, and then it gradually falls.

Again, it is of use in getting proof, or otherwise, of the assertion "Doctor, I have eaten nothing for a week." If true, there will be leucopenia—a very low count. In such a case a count of 2,700 suggested stenosis of the gullet in a Russian patient under Cabot, whose language was unintelligible. The diagnosis was confirmed by a probang.

---

* *Leucopenia*, the converse of *Leucocytosis*, occurs in (1) *Starvation* or *Malnutrition*, *e.g.* cancer of œsophagus; (2) *Infectious Diseases which do not cause a Leucocytosis.* influenza, measles, miliary tuberculosis, malaria, and typhoid, especially in the later weeks.

Again, as already mentioned, the leucocytosis of digestion is absent in gastric cancer, and will help to distinguish this from simple gastric ulcer.

2. *Leucocytosis of New-born.* High counts are the rule in infants.

3. *Leucocytosis of Pregnancy.* Most primiparæ show a moderate leucocytosis during later months of pregnancy, *e.g.*, 13,000

4. *Post Partum Leucocytosis.*—A leucocytosis of 15,000 to 20,000 occurs for some days and sometimes weeks *post partum.* It is important to remember this, so as not to confound it with the leucocytosis of septicæmia, which is generally a much higher one.

5. Leucocytosis also occurs after *violent exercise*, *massage*, *cold baths.*

6. Lastly leucocytosis occurs just before death in slow deaths, and may be called *Terminal Leucocytosis.*

In one case the leucocyte count rose in a moribund patient from 8,000 to 60,000 during the last two days of life.

Possibly this terminal leucocytosis is analagous to the unexplained terminal rise of temperature, which heralds in the last hours of so many chronic non-febrile disorders.

PATHOLOGICAL LEUCOCYTOSIS.

1. *Post Hæmorrhagic Leucocytosis.*—After a hæmorrhage a leucocytosis of 16,000–18,000 is common. I have already referred to this.

2. *Leucocytosis of Infectious Processes.*—Most of the infectious fevers are accompanied by leucocytosis, *e.g.*, pneumonia, scarlet fever, diphtheria, follicular tonsillitis, septicæmia, and pyæmia including malignant endocarditis, puerperal fever, peritonitis, pericarditis, arthritis, acute rheumatism, erysipelas.

There are, however, some notable exceptions, *e.g.*, typhoid fever, measles, rotheln, mumps, influenza, malaria, and tuberculosis (including early phthisis, miliary tuberculosis, tubercular peritonitis, tubercular osteitis, tubercular periostitis, tubercular pleurisy, and tubercular pericarditis), are not accompanied by any leucocytosis.

A few words as to the *Leucocytosis in Pneumonia*, its use in diagnosis and in prognosis.

The leucocytosis of pneumonia is a very marked one. It appears as early as the rigor appears, and continues throughout the period of pyrexia, and gradually falls to normal after the temperature has reached normal. Here then is an important point which will often prove useful. If after a pneumonia the leucocyte count is not normal, examine carefully for empyema, abscess of lung, pericarditis, or some other complication. In children particularly, convalescing from broncho-pneumonia, it should be a routine to examine the blood for leucocytosis. If this were done, empyemata, often so latent in children, would be found in the early stages, instead of as is so often the case when the lung has been irretrievably damaged.

The degree of leucocytosis gives us only to a small extent a factor in prognosis.

A slight Leucocytosis probably means mild infection + vigorous reaction. All cases recover.

A marked Leucocytosis probably means severe or moderate infection + vigorous reaction. Case may or may not recover.

No Leucocytosis means a feeble reaction. Cases invariably die., *i.e.*, while no leucocytosis in pneumonia is a grave sign, its presence is neither good nor bad.

With regard to diagnosis, however, the leucocytosis of pneumonia will often give us most valuable help. It will at once exclude enteric, influenza, and malaria.

To me, it is an astounding fact for which I can conceive no adequate explanation why it is, that given a patient lying before you in the typical typhoidal state—a high temperature, low muttering delirium, dry tongue, sordes, &c., &c., a case in which we will suppose we find it difficult to decide between typhoid fever and pneumonia, both, mind you, infectious diseases due to specific germs, to me, I repeat, it is an astounding fact that in one case you should find a marked leucocytosis, and in the other an entire absence of leucocytosis. But if no explanation be forthcoming, at any rate, we may utilise the knowledge of the fact and it will help us in the correct diagnosis of many a case of either early pneumonia in which the physical signs have not yet appeared, or in those cases of pneumonia so common in old people and in children in which the physical signs are latent throughout.

The characteristic of *Typhoid Fever* is the absence of leucocytosis. While almost every local inflammatory process is accompanied by leucocytosis, enteric fever stands prominently apart in having no leucocytosis.

This is of the greatest diagnostic use, and where we have not the opportunity of obtaining the bacteriological proof of typhoid fever (Widal Reaction), a leucocyte count will give us the greatest assistance in arriving at a correct opinion. If leucocytosis is absent it immediately puts out of court appendicitis, pneumonia, tubercular meningitis, and almost every other form of local inflammation, and would be strongly in favour of an obscure case of pyrexia being due to enteric fever.

This absence of leucocytosis only holds for uncomplicated typhoid. With any inflammatory complication of typhoid fever the leucocyte count is raised.

			Leucocyte count.
Thus.	1. Perforation.	Before	8,300
		After	24,000
	2. Phlebitis.	Before	4,800
		After	16,400
	3. Otitis media.	Before	5,300
		After	16,400

In those frequent rises of temperature which follow a defervesence in the temperature of a case of enteric fever, and which give such alarm on account of the possibility of a serious complication, a leucocyte count will decide what import we need place on the rise of temperature.

In *Diphtheria* we also get a marked leucocytosis, but it is of little diagnostic help.

In prognosis, however, the absence of *Leucocytosis* (except in a very mild case of diphtheria) or the presence of *Myelocytes* are bad signs.

In *Scarlet Fever* we get a leucocytosis, the importance of which is that it enables us to distinguish a case of scarlet fever from *Measles* or *Rotheln*, neither of which diseases are accompanied by leucocytosis.

In cases of *Tuberculosis* the rule is to find no leucocytosis. But to this there are exceptions, and these exceptions give us important information.

Thus, in *Incipient Phthisis* leucocytes are normal, except after hæmoptysis, and then we get a *Post Hæmorrhagic Leucocytosis*, which quickly disappears when the hæmorrhage has ceased.

In *Phthisis with Cavitation* we get marked leucocytosis, and this is often an extremely useful guide, as we may certainly say, no leucocytosis, no cavity formation.

The leucocytosis that occurs with cavitation probably depends on the presence of pyogenic cocci as well as the tubercule bacilli, *i.e.*, upon a mixed infection.

In *Acute Caseous Pneumonic Phthisis* we get leucocytosis, much as we do in croupous pneumonia.

In *Fibroid Phthisis* there should be no leucocytosis, but as there are generally cavities present leucocytosis may be found.

In *Advanced Phthisis* myelocytes are found, and this is a bad element in prognosis.

In *Bone Tuberculosis—e g.*, hip disease and spinal caries—there is no leucocytosis unless the caseous material become inoculated with pyogenic cocci, and then the leucocyte count at once rises.

In *Acute Miliary Tuberculosis*, *Tubercular Peritonitis*, *Tubercular Pleurisy*, and *Tubercular Pericarditis* there is no leucocytosis.

But in *Tubercular Meningitis* there is generally a leucocytosis. Given a doubtful case of typhoid or tubercular meningitis, a raised count would negative uncomplicated typhoid and would be in favour of tubercular meningitis.

3. *Leucocytosis of Local Abscess,* **including, appendicitis, salpingitis, empyema, etc.**

This is a subject quite by itself. I can in no sense do justice to it in the short notice I can give it here. I may refer you, however, to an excellent monograph by my predecessor at the General Hospital, Dr. Stuart Macdonald, which appeared in the *Birmingham Medical Review* in April, 1900, on Leucocytosis and Suppuration.

I shall sum up my remarks on local abscess by giving a few conclusions arrived at by Cabot during the study of a large number of cases of appendicitis, which we may take as a typical case of abscess formation.

(1) Mild and very severe cases give no leucocytosis, just as in pneumonia and diphtheria.

(2) An increasing leucocytosis means a spreading process, and this may be the only evidence of the fact. A steady daily increasing leucocyte count is of far more significance than a large count which does not increase.

(3) The size of the count is not of great significance. A low count (8,000 to 11.000) may be one of three things.

(*a*) Mild case.

(*b*) A very severe case.

(*c*) An abscess thoroughly walled off.

(4) An abscess gradually spreading will be indicated by a gradually increasing leucocyte count.

(5) After an abscess has ceased to spread, one of two things may happen.

(*a*) It may remain completely walled off—the leucocyte count remains stationary, or it may gradually decrease and reach normal, if the pus is being absorbed.

(*b*) Or, it may burst into the general peritoneal cavity, giving rise to general peritonitis, and then the leucocyte count will rise abruptly if resistance be vigorous, or the count will fall to normal or subnormal, if resistance be feeble.

(6) If a leucocyte count of 18,000–25,000 be maintained for a number of days a large abscess is probably present, and pretty well walled off.

(7) If after operation a leucocytosis persists it means there is another pocket of pus which is not being drained.

With these brief observations I must leave a subject teeming with interest, and of the greatest possible value in the diagnosis, treatment, and prognosis of cases of suppuration.

4. *Toxic Leucocytosis*—Pot. chlorate poisoning, phenacetin poisoning, sulphonal poisoning, chloroform narcosis.

5. *Leucocytosis of Malignant Disease.*

In conclusion, while expressing my acknowledgment of the free manner in which I have used for the purposes of this paper, both Cabot's work on the Blood, and the Histology of the Blood by Ehrlich and Lazarus, translated into English by the late Walter Myers of this city, I would also express my thanks for my first clear conception of many of the difficult points presented by the pathology of the blood to Dr. William Bulloch, Bacteriologist, London Hospital.

REPORTS OF CASES.

◆

A CASE OF SUPPRESSION OF URINE.

BY L. S. TOMKYS, L.R.C.P. LOND., M.R.C.S. ENG ; AND
JAMES W. RUSSELL, M.D., M.R.C.P.

THE following case raises an interesting question as to the causation of the suppression of urine:—

The patient was a farmer, 61 years of age, who had lived much in the open air, but about whose habits, at any rate in earlier life, little was known. He looked quite his age. Up to the present time he had been in good health, and no history of any previous illness was obtained.

On February 16th, 1901, he was seized with diarrhœa, accompanied by colicky pain of moderate severity, without vomiting. This continued throughout the day. He passed a fair quantity of urine, though less than usual. On the 17th he was rather better, and passed a larger quantity of urine. On February 18th, he remained in the same condition until the evening, when very severe abdominal pain set in, accompanied by violent vomiting. He passed no urine, and apparently had no desire to do so, but as the diarrhœa caused him to use the night-stool at very frequent intervals, this symptom may possibly have been masked.

When first seen by one of the writers, about 4 p.m. on February 19th, he was in a state of collapse. The pain was still very severe and the vomiting frequent, though the diarrhœa had somewhat diminished. The temperature was subnormal, the extremities cold and blue, and the surface of the body cold. He complained of cramps in the legs. His mind was quite clear, and there was no dyspnœa. The pulse was small and thready. No urine had been passed, though he occasionally felt the desire to micturate, but before he could get out of bed it would pass away.

On February 20th, he was somewhat better; the pain and vomiting were less severe, and the diarrhœa had entirely ceased. The temperature was normal. During the evening, however, the pain and vomiting increased in intensity, and the patient again became collapsed. He rallied under treatment, and the temperature rose above normal (100°) for the first and only time. He had passed no urine, but had constant desire to do so.

On February 21st, the patient was rather better, but pain was still present, though not severe. Vomiting occurred whenever food was taken. After many attempts during the day he passed about 1 oz. of urine.

On February 22nd, the improvement was maintained, and he passed 3 or 4 oz. of urine during the day. Vomiting had ceased, and small quantities of food were retained. There was practically no pain. During the night, however, the vomiting recurred, and secretion of urine ceased, but there was no severe pain.

On February 23rd, the patient was seen by both of the writers. He was apparently free from pain, but vomiting occurred frequently. He was quite conscious, and answered questions rationally, but his mental condition was a little dull, and he was inclined to be apathetic. He had slept but little since the onset of his illness. The extremities were cold and the pulse very feeble: indeed, his whole condition was one of great asthenia. The heart's impulse could not be felt, and the cardiac sounds were very faint; but there was a good deal of emphysema, which obliterated the cardiac dulness. The abdomen was lax. No tenderness was elicited, and nothing abnormal could be felt, though deep palpation was allowed. No enlargement of either kidney could be detected. The tongue was moist and moderately furred. During the day he had passed about 2 oz. of urine. This was extremely concentrated, acid in reaction, and contained a considerable quantity of albumen. There was no deposit.

On February 24th, the patient gradually became weaker, and he died in the course of the day without passing more urine.

The interest of the case lies in the diagnosis. The almost complete anuria must have been due either to recent mechanical obstruction of both ureters—or of a single ureter, the other ureter or kidney having previously been rendered functionless*—or to a genuine suppression. In the latter case, the condition would presumably be secondary to the acute intestinal disturbance, to the intensity of which the severe pain—if of intestinal origin—may be taken as an index. Previous disease of the kidneys would of course predispose to such an occurrence. The condition would thus be comparable to the suppression which occurs in cases of Asiatic cholera.

In the unavoidable absence of a *post-mortem* examination the writers are not able to decide the question. Even with regard to probabilities, they are not completely in agreement, whilst admitting that there is much to be said for both points of view. They therefore content themselves with an enumeration of the main points which tend in favour of the two diagnoses.

In favour of the view that the case was one of obstructive suppression are the facts that diarrhœa and pain of moderate intensity were present for 2½ days before the onset of suppression, the latter only occurring after very severe pain accompanied by vomiting had set in. The pain was of great severity, the relations of the patient stating that they thought he would have died in the course of the night. No voluntary account was given of radiation of the pain in any definite direction, but when asked on February 23rd whether it had radiated towards the testicles, the patient said that that had been the case. His mental condition at that time, however, was distinctly impaired, and neither of the writers felt that much reliance could be placed on the admission. In favour of the above diagnosis, may also be mentioned the fact that the pain never entirely ceased throughout the illness, and the frequent desire to micturate points in the same direction. One of the strongest points on this side of the question lies in the general condition of the patient, whose extreme asthenia, without the occurrence of uræmic symptoms other than the vomiting, was admitted by both the writers to be very characteristic of that met with in cases of obstructive suppression.

---

* A case of suppression of urine by complete blocking of each ureter at different dates is recorded by Dr. Wm. Newman in the *British Medical Journal*, January 15th, 1876. Here, however, there was a history of two previous attacks of renal colic.

In favour of the view that the case was one of suppression secondary to acute intestinal disturbance, and occurring in kidneys probably previously damaged by disease, are the following points:—

The patient was old of his age, and had lived a hardy and exposed life. The arteries were thickened, and he had been in the habit of getting out of bed several times in the night to pass urine. There was complete absence of any previous history of renal calculus, or of any attack which would account for the throwing out of function of one kidney or ureter. Abdominal palpation failed to reveal any sign of disease, nor did deep pressure over either kidney elicit any tenderness. The condition of the urine, which was highly concentrated and contained a good deal of albumen, is in favour of the theory of suppression. Finally, the profuse diarrhœa with which the attack began, suggests that the condition had its origin in a disturbance of the intestinal tract.

Assuming the existence of a granular kidney—which, it must be admitted, is only a matter of inference—the question may also be raised whether the whole attack may not have been uræmic in nature. But, as far as the writers are aware, suppression of urine is not one of the symptoms of uræmia in chronic Bright's disease. Several authors refer to its occurrence immediately before death in advanced cases of granular kidney, and some state that it is frequently observed under these circumstances. But no mention is made of such a phenomenon occurring as an effect of uræmia in the earlier stages of this disease. Even if the vomiting and diarrhœa be looked upon as of uræmic origin, it would still therefore appear that the suppression must be accounted for by one or other of the explanations discussed above

---

NOTE ON A CASE OF DOUBLE INTESTINAL ANASTOMOSIS FOR DOUBLE ARTIFICIAL ANUS IN THE SMALL INTESTINE.

EXCLUSION OF SEVERAL FEET OF INTESTINE. RECOVERY.

BY GILBERT BARLING, M.B., F.R.C.S.,
PROFESSOR OF SURGERY IN THE UNIVERSITY OF BIRMINGHAM,
SURGEON TO THE GENERAL HOSPITAL.

J. G., male, aged 15, was admitted to the General Hospital February 8th, 1900, suffering from an artificial anus in the left inguinal region and from a fæcal fistula in the middle line of the abdomen below the umbilicus.

The boy had been in a Cottage Hospital with a distended abdomen and constant vomiting of material probably from the lower part of the small intestine. For this condition an opening was made in the small intestine at the middle line of the abdomen which relieved his symptoms. Two months later the abdomen was reopened, tubercular peritonitis discovered, and a number of adhesions broken down; but a month later, to relieve further obstructive symptoms, a second artificial anus was made in the left inguinal region, and it was supposed that the sigmoid flexure was then opened.

When admitted to the General Hospital there was small discharge only from the opening in the middle line, and practically all the intestinal contents escaped from the left iliac opening, scarcely anything ever coming down into the rectum. The boy was thin, and suffered intensely from a large area of excoriation around each of the openings. From the nature of the material which escaped, and from the valvulæ conniventes exposed in the inguinal region, it was quite clear that both openings were in the small intestine.

On February 19th, the condition of the skin of the abdomen having considerable improved under careful dressing, the margin of the gut opening in the middle line was dissected away from the skin well into the sub-peritoneal tissue, the edges of the bowel inverted and the opening closed by sutures, the operation being an *extra-peritoneal* one. The operation was successful in closing this opening, and subsequently an extremely small motion was passed by the rectum.

When this opening appeared soundly healed, the second and larger opening was attacked. The abdomen was opened freely and the edges of the orifice separated from the abdominal wall and closed by inversion and suturing. This narrowed the gut to such an extent that it was quite impossible to trust the narrow channel to conduct the alimentary contents, and a lateral anastomosis by means of a Murphy button was made between the gut above and that below the narrow part. This was done in preference to excising the narrowed area. With great difficulty, owing to the infiltrated condition of the tissues, the opening in the abdominal wall was then closed with sutures.

This operation resulted in a satisfactory closure of the opening, but the patient suffered a good deal of abdominal pain which was relieved a few days after the operation by the old opening in the middle line becoming patent again and discharging freely.

A month later the abdomen was freely opened in the middle line, and the edges of the fæcal fistula were completely detached from the abdominal wall. It was now found that there was a dense mass of adhesions matting together the lower end of the ileum, the cæcum and adjacent parts, and it was not possible to free these.

The opening in the small intestine was thereupon anastomosed by means of a Murphy button to the upper part of the sigmoid flexure, the only part of the intestine to which it was possible to approximate it; the abdominal wall was with considerable difficulty closed by suture.

A good recovery followed, and two or three very soft motions were passed by the rectum daily. The boy gained weight, and was sent to a convalescent home on May 5th, both of the buttons being retained. He has been at work as a clerk since the end of August, 1900; he feels well, his nutrition is well maintained, and he passed one, and sometimes two, formed motions daily. Both the scars are very weak, and threaten ventral hernia, and this weakness is due to the impossibility, owing to the density and infiltration of the tissues, of effecting an efficient suturing.

The case is very interesting from several points of view. First, the patient suffered from tubercular peritonitis; he gets symptoms of intestinal obstruction, and an artificial anus is made in the small intestine. Obstructive symptoms recurring, another artificial anus is made in the small intestine. Three operations are performed to close these artificial openings; the first, an extra-peritoneal suturing, fails; two subsequent operations by lateral anastomosis with Murphy button succeed; at the last operation the tubercular condition is found to be cicatrising. Finally, the patient is going about with two Murphy buttons in his intestine, and most of the large, and some part of the small, intestine excluded from his digestive tract. Notwithstanding this, he is in good health, and his digestive functions are efficiently carried on.

REVIEWS.

A CONTRIBUTION TO THE STUDY OF THE BLOOD AND BLOOD PRESSURE.*

THIS work, by Dr. Oliver, is founded partly on his Croonian Lectures delivered in 1896, and also on a series of articles which appeared two years later in the *Edinburgh Medical Journal*; but even this material has undergone some amplification at the hands of the author, based on continued experiments. Dr. Oliver is widely known as one of the pioneers of hæmatology in this country, and therefore his physiological and clinical observations must of necessity carry great weight. The first chapters relate to the variours methods of estimating the blood, based chiefly on the use of apparatus invented by the author, and now so well known by his name. There can be but little doubt that the hæmoglobinometer which he has introduced is one of the most perfect available for clinical research. The hemocytometer is also of great value. Chapters II. and III. relate to the blood and its physiology. In it the author emphasises the fact which is sometimes lost sight of, that the blood in one portion of the body is not the same in corpuscular richness as that in another. Thus the blood furnished by the toes is much poorer than that furnished by the fingers. It is also possible to reduce the number of corpuscles in a part by elevation. While these facts are practically self-evident, it is curious how often they are disregarded in practice. Exercise, whether local or general, produces an appreciable rise in the hæmoglobin and corpuscles. The author gives several charts in support of this. He also discusses the night and morning variation of hæmoglobin, observations which are of very great interest.

---

* A Contribution to the Study of the Blood and Blood Pressure. By George Oliver, M.D. Lond, F.R.C.P. London : H. K. Lewis.

The effect of rest on the worth of the chromocytes is one of the greatest interest, and the writer quotes the observations of Edgecombe, who has carefully investigated this subject, and which go to prove that rest and sleep considerably increase the worth of the red corpuscles. The important bearing on the treatment of chlorosis by rest in bed is thus shown with physiological accuracy, and it must be the experience of all that the out-patient treatment of this disease is both tedious and unsatisfactory until the patients are put to bed. The writer remarks that our physiological knowledge is imperfectly applied in clinical work. This is certainly true, but, on the other hand, it must be admitted that the apparatus which gives such fine results in the physiological laboratory is only too often misleading in the hospital wards, even supposing it were possible to use it extensively. The writer describes the hæmodynamometer and the arteriometer, and no doubt many interesting observations are possible by means of their aid. It is stated that the evidence these instruments have furnshed has shown that it is the varying calibre of the artery which is the main factor in misleading the clinical observer in regard to his tactile estimation of the arterial blood pressure, and especially when the calibre is greatly reduced. The writer says that in many instances he has known considerable error arise as to the condition of the blood pressure as estimated by the finger compared to instruments. This is no doubt possible, but still we hold strongly that more therapeutic information is acquired from well-trained fingers than from the intermittent use of instruments, and we have even known cases of physicians whose instrumental equipment was so terrible to behold that it seemed to have pushed aside and nipped in the bud all therapeutic instinct. It has still to be borne in mind that the average medical man goes into practice, and therefore he had better learn to use his fingers as they are so easily carried about and do not frighten the patients. At the same time, he should pay all honour to the observations of the physiological physician. In Chapter V. are discussed the physiological variations of the circulation. The arterial blood pressure is practically uniform throughout the arterial system as is demonstrated by the hæmodynamometer; the writer's observations being somewhat opposed to the usual teaching that the blood pressure diminishes along the arterial tract from the heart towards the small arteries and capillaries. Dr. Oliver maintains that the mean arterial pressure does not appreciably vary in the different parts of the arterial system on which observations can be made—always providing, of course, that the influence of gravitation is excluded. The blood pressure is, however, reduced by the arterioles, but probably not much reduced by the passage of the blood through the capillaries. The various causes of variation in the blood pressure, such as gravitation, posture, exercise, etc., are discussed seriatim, the list being a long one.

The writer thinks the blood pressure may furnish indications for selecting climate, for, as temperature considerably affects the blood pressure, it would appear an equable and warm climate would be indicated in peripheral obstruction, while a cool and more bracing one would be suitable in cases with a relaxed periphery. The last chapter in the book deals with the clinical variation of the circulation. It is, perhaps, the gist of the work so far as the physician is concerned. The writer gives some valuable observations on the subject of cardiac dilatation, and he expresses the conviction that percussion is a very unreliable sign in such cases, that far better ideas may be obtained by noting the relation of the apex beat to some fixed point. There are many such practical observations throughout this concluding chapter.

We can confidently say that the book is one of great interest, and it indicates a scholarly knowledge of the physiology and pathology of the circulation. We strongly advise all who are interested in the subject of blood pressure, be they physicians or physiologists, to master the contents of Dr. Oliver's work.

D. S.

A HANDBOOK OF MATERIA MEDICA, PHARMACY AND THERAPEUTICS.*

THE fact that this book has passed through eight editions since 1886 is a sufficient proof that it has served some useful purpose. The work appears to be primarily intended as a kind of Practitioner's Handbook, and as such is a very useful book for reference. As a scientific work, however, we cannot say we are favourably impressed by it. To begin with, although the book comprises some 900 pages, the subject matter is of far too wide a scope to be treated in one volume, and subjects like Urine-analysis, Tables of Differential diagnosis are out of place in a work of this character. Apart from that, however, the author has been enabled from considerable experience in the Philippine Islands to give us some useful results of his observations on the treatment of tropical diseases.

The book opens with an account, in general terms, of the constituents of drugs. We think the author has rightly devoted only a few pages to this subject, for to the ordinary reader anything beyond the merest outline is unnecessary. Then follow sections on the classification of medicines, their modes of administration, and dosage. With this preliminary introduction we come on to the main part of the work, Part I. of which is devoted to the consideration of the preparations, physiological action, etc., of each individual drug, alphabetically arranged. The doses, strengths, etc. of the preparations are according to the United States Pharmacopoeia and will consequently be somewhat confusing to the English reader. The therapeutics of each drug is considered fairly fully and although some of the author's statements might be questioned, the subject is on the whole well treated, though the action on the various systems might have been treated more systematically. This part forms a large section of the book and of necessity cannot be treated on very different lines from those adopted by other authors on the same subject.

---

*A Handbook of Materia Medica, Pharmacy and Therapeutics; by Samuel O. L. Potter, A.M., M.D., M.R.C.P., Lond. Rebman, Limited. 8th Edition.

Part II. deals with Pharmacy and Prescription writing, with a useful section on Incompatability. The author here takes the opportunity of strongly opposing the indiscriminate renewal of prescriptions, and also of showing up the money-making ways of the Homœopathist. With the author's sentiments on these subjects we entirely agree.

Part III. is headed Special Therapeutics, and in which all diseases, conditions, and symptoms, are arranged in alphabetical order with their appropriate treatment. This occupies nearly 300 pages and is, we consider, the worst feature of the book; taking for example, a subject like "cough" and putting under it a long list of drugs with indications such as "useful in irritable cough" cannot but be unscientific and if followed must reduce treatment to mere quackery.

The book ends with appendices on Latin Phrases used in medicine, Differential diagnoses, etc.

In conclusion, although a useful book in many ways, containing pieces of information, often not readily obtained, we do not consider it will take any very prominent position among the many excellent works on the subject.

DISEASES OF THE HEART.*

We note with pleasure the arrival of a book upon Diseases of the Heart, which although not large is sufficiently comprehensive to deal thoroughly with the subject of heart disease. This book will, we venture to think, fill a useful gap between the ordinary text-book of Medicine and those large works which the ordinary young qualified man cannot find time to read. It forms a thorough guide to the subject without entering too greatly into minutiæ, which, after all, are not of great clinical importance. Controversial matter is also excluded, a too frequent source of worry to those who wish to attain a thorough knowledge of the subject without having their minds filled with ideas which do not meet with general acceptance. The first two chapters deal with the anatomy and physiology of the heart. Though short it is concise and accurate, and ample for clinical purposes. Chapter III. deals with the methods used in diagnosis of cardiac disease. This is most thoroughly treated, and its value is greatly enhanced by diagrammatic representations of the various types of murmurs, in which their time, position, and intensity is indicated at a glance. Then follow chapters on the pulse and cardiograph.

---

* Diseases of the Heart. By Edmund Henry Colbeck, B.A., M.D. Cantab., M.R.C.P. Lond., and D.P.H. Cantab. Methuen and Co.

After these preliminary chapters, the author begins the question of cardiac disease with a chapter on congenital affections. Their etiology and mode of formation from the embryological standpoint is clearly stated but the part devoted to their signs and diagnosis would be improved by being a little fuller. The question of pericarditis is treated in a very lucid manner; the section on treatment is perhaps a little too diffuse. The section on acute pericarditis is excellent, its pathology in particular being very concisely put. The chapters on chronic valvular disease necessarily occupy a very important place in the work and would be read with great advantage. Myocardial diseases and Functional disorders form most valuable sections which we can confidently recommend to those seeking a terse and accurate account.

In conclusion, we consider the book a very valuable addition to the literature on the subject, and we cannot but commend the author. We wish his work the success it deserves.

ARSENICAL POISONING IN BEER-DRINKERS.*

This book is chiefly an account of the first cases of Arsenical Poisoning in Beer-Drinkers, which occurred in what may be characterised as an epidemic in Manchester in 1900. The introduction is a short statement of the facts which led to the recognition of arsenic in beer and which has produced very far-reaching results, both clinical and legislative. Attention once drawn to this subject, it was not long before reports flowed in from different parts of the country with somewhat surprising results. The cases on which the writers have based their description have occurred chiefly among the working classes. It is also pointed out that in a large district the prevalence of arsenical neuritis may be very localised. Sex also varies with the locality; in some places the percentage of women shewing symptoms has been considerably less than the males, while in others the numbers almost approach equality. The writers state that they have been unable to meet with any evidence of arsenical poisoning in any person limiting themselves to the use of brandy or whisky.

Beer and stout were productive of marked symptoms, and it is interesting to note that the amount taken seemed to have no bearing on the cases, as some who only took a small quantity daily showed marked symptoms. The writers describe the appearance of the patient as most characteristic. The face is congested and dusky, often mottled and blotchy, and with sometimes distinct cyanosis. The eyes are suffused, watering and tearful, necessitating frequent rubbing, which latter may be productive of slight suppuration. Walking is characteristic, being painful and difficult, and often shewing marked ataxy. A rubbing movement of thumb and fingers is also described, not unlike that seen in paralysis agitans. There is also mental sluggishness, some general wasting, and even slight pyrexia. One of the most striking series of manifestation is that presented by the skin. Pigmentation is, perhaps, the chief of these, being so marked as to resemble Addison's disease, a resemblance which is moreover supported by the distribution of the coloration. At the same time the face is often but slightly involved. Different forms of erythema which shew bilateral symmetry, papular eruptions, vesicles which discharge after the manner of an eczema, herpes, urticaria, and bulbous lesions, have all been recorded. Desquamation and thickening of the skin are particularly emphasised by the writers as constituting very characteristic indications. The symptoms and signs which more particularly belong to the nervous system are many. Early sensory disturbances are the rule: hyperesthesia, hyperalgesia, and neuralgic pains can all be ascertained in the early stages. The amount of motor impairment varies from a slight paresis to complete paralysis. The extremities are principally involved, particularly the lower. Muscular wasting, glossy skin, and many other lesions of a light kind, constitute some of the large series of trophic disturbances met with in this form of neuritis.

---

* Arsenical Poisoning in Beer-Drinkers. By T. N. Kelynack, M.D., M.R.C.P., and William Kirkby, F.L.S. London: Baillière, Tindall and Cox.

Nor do the other systems escape, as irritable cough with bronchial catarrah, cardiac failure, diminution in the amount of hæmoglobin, and red corpuscles are recorded by the writers, and the long list of digestive derangements is only what might be expected. The writers divide their cases into a variety of types, namely the sensory, vaso-motor, the paralytic, the ataxic, the atrophic, and the herpetic. Under the head of prognosis some very interesting information is given in connection with the various types already enumerated. It is probable, however, that the number of cases as yet recorded is too small comparatively, and too short a time under observation, to allow of any very definite statements of this kind, but those given are useful for forming a working basis for future observation. The last part of the book deals with the clinical aspects of the question, and is by no means the least interesting portion of the work. It is not pleasant to note in the table, on page 95, that out of eleven specimens of English glucose and invert sugar only 5 showed no traces of arsenic, while ten specimens of American glucose were all free. The test most strongly recommended as giving the best results in the testing of beer for arsenic is Gutzeit's. The details of this we cannot, of course, epitomise here, but, according to Mr. Kirkby, its advantages over Marsh's and Reinsch's are considerable. A long bibliography is given at the end of the book. The book is certainly a most interesting and valuable contribution, and the evident care which has been given to its preparation will help to make it a standard monograph.

SAUNDER'S YEARBOOK OF MEDICINE AND SURGERY.*

THE surgical section of this work is now published in a separate volume. It is a yearly digest of scientific progress and authoritative opinion in all branches of surgery, drawn from the Journals, Monographs, and Text-books of the leading American and foreign authors and investigators. The articles are all contributed by American specialists, and the whole work is under the general editorial charge of Dr. Geo. M. Gould.

The present volume on Surgery is a well-printed, freely illustrated book, of some 600 pages. Under the general heading "Surgery" are sections dealing with General Surgery, Obstetrics, Gynæcology, Orthopædic Surgery, Ophthalmology, Otology, Diseases of the Nose and Throat, and Anatomy.

The book is a useful one in many ways, but essentially it is a digest and not a cyclopædia; the references to the various articles and opinions dealt with being for the most part too brief and patchy to be of much value in themselves, though sufficiently long to enable one to gather a general idea of the character of such articles and the conclusions arrived at by their authors.

---

* Saunder's Yearbook of Medicine and Surgery (Surgery). Edited by Geo. M. Gould, M.D.

As full references are given in every case, the originals can, if required, readily be looked up.

The arrangement of the work is very clear and concise, and everything relating to any special organ or region can at once be found, by turning up the section under which it would come.

It is impossible in a work of this kind to attempt to criticise the opinions and conclusions expressed. So much is new and admittedly tentative that one can only use what may be called one's "surgical common sense" and idea of the general fitness of things in estimating their value. For example, with regard to the article in which Schapiro advocates a complicated course of general and vaginal massage for the cure of Essential Leucorrhœa we can only say that it may be of value, though we fail to see why it should be so, and the necessary manipulations are such that but few English medical men would care to subject their lady patients to, for a condition which, after all, is not of vital importance. The book, however, contains much that is interesting and instructive, and is well worth perusal by those who wish to keep themselves in touch with the progress of modern surgery.

MODERN MEDICINE.*

THIS work is intended to be a small text-book of medicine with especial reference to modern methods of research, bacteriological, chemical, and otherwise. So far as such subjects go, the book may be of use to the student who wishes to find between two covers such information as will help him in everyday clinical work. The writers state that students are often obliged to refer to separate books on these subjects and also on that of physical examination. This is made an apology for combining all methods of physical examination with a text-book of medicine into one volume. Personally, we do not feel at all sure that the plan is a good one. There is much more practical benefit to be gained by acquiring a knowledge of bacteriology, clinical chemistry, and the methods of physical examination apart from what we may term the text-book study of medicine. It is difficult to combine physical diagnosis in its many dependent branches, with clinical descriptions and therapeutic indications in anything like a book of small size. One or other must suffer, and possibly both. We are compelled to admit that in the present instance it is the latter contingency. There is not sufficient detail as to methods, and the descriptions of diseases are far too short, and in many cases not accurate. Diseases such as diabetes mellitus, arthritis deformans, and gout require somewhat more liberal treatment even in a small text-book of medicine.

---

* Modern Medicine. By Julius Salinger, M.D., and Frederick Kalteyer, M.D. London: W. B. Saunders and Company.

The author's account of nephritis is hardly one which will meet with much favour in this country. "Large white kidney," "hæmorrhagic kidney," and "mottled kidney" are divisions which tend to increase rather than diminish the confusion already existing in the description of a subject which has been needlessly complicated by different writers.

Chorea is treated in rather a second-hand manner, and some erroneous statements are continued. And as to its etiology the writers say 20 per cent. are due to acute rheumatic fever—a proportion which we believe is far too low.

Some of the descriptions are better, and we may here refer to ulcerative endocarditis as being the best in the book.

PRACTICAL POINTS IN NURSING.*

THIS book, as its name indicates, is intended as a practical guide for the nurse, especially for the nurse thrown on her own resources without the conveniences and routine of the hospital.

---

* Practical Points in Nursing. By Emily A. W. Stoney. London: W. B. Saunders & Company.

The work is divided into sections dealing with Medical, Surgical, Obstetric—Gynæcological Nursing. There is also a chapter on Physiology, and at the end a Dictionary of the more Ordinary Medical Terms; also some good Hints on Sick-room Cooking. There are also Hints on Etiquette both in hospital and private nursing, which are certainly useful seeing how often they are ignored by the modern nurse. We rather think that a little too much is expected of the nurse, for here and there she is told things which by right depend on a much more extensive training than any nurse as such can have, and the difference between a nurse and a doctor is apt to be lost sight of. Taken as a whole, the book is certainly a complete, clear, and very practical hand-book of nursing.

A TEXT-BOOK OF PATHOLOGY.*

Mr. Alfred Stengel's Text-Book of Pathology has now acquired a wide and deserved reputation as a reliable and handy text-book of pathology. We have already reviewed the work, and then formed a favourable opinion of its merits. The appearance of a third edition within a comparatively short time speaks well for its usefulness, and also for the desire of the author to keep the work up to date. The new edition contains many carefully-executed illustrations, several being in colour. The subject of pathology is so extensive that anything like an extensive text-book must necessarily be of large size, and, of course, expensive. We think the great merit of Dr. Stengel's book is that it forms a good practical text-book for the student, especially for the average student, who means to practice medicine. The omission of much controversial matter is greatly in its favour, having regard for the class of readers for whom the work is intended. We can confidently recommend the book to all students and practitioners.

---

* A Text-Book of Pathology. By Alfred Stengel, M.D. Third edition. London: W. B. Saunders.

New Books, etc., Received.

From the F. A. Davis Company—
Principles of Surgery. By N. SENN, M.D., L.S.D.

From Baillière, Tindall, and Cox—
Aphorisms, Definitions, Reflections, and Paradoxes. By A. RABAGLIATI, M.A., M.D.

Stricture of the Urethra and Enlargement of the Prostate. By P. J. FREYER, M.A., M.D.

Introduction to Medical Jurisprudence. By WILLIAM M'CALLIN, M.D.

Dental Surgery. By HENRY SEWILL, M.R.C.S. Fourth Edition.

From Charles Griffin and Co., London—
Outlines of the Diseases of Women. By JOHN PHILLIPS, M.A., M.D.

From H. K. Lewis, Gower Street, London—
The Extra Pharmacopœia. Third Edition. Martindale and Westcott.

From Young J. Pentland, Edinburgh and London—
Text-book of Medicine. Edited by G. A. GIBSON, M.D., D.Sc.

From G. P. Putnam's Sons, New York and London—
Eczema. By L. DUNCAN BULKLEY, M.A., M.D.

From The Scientific Press, Limited, London—
Burdett's Official Nursing Directory, London, 1901.

From J. W. Arrowsmith, Bristol—
Bath Waters. By PRESTON KING, M.D., Cantab.

From The Medical Publishing Company—
Clinical Lectures on the various forms of intra-abdominal suppuration.

From John Bale, Sons, and Danielsson, London—
When to Operate in Inflammation of the Appendix. By C. MANSELL MOULLIN, M.D., F.R.C.S. Second Edition.

⁂ Authors can have reprints of articles at the following rates:—

Not exceeding 8 pages	...	8/-	per 100
„ 16 „	...	12/6	„

The re-arranging of the type is the principal cost in the production of these reprints, so that smaller numbers will be the same price. Larger numbers at a proportionate reduction.

The Subscription to the *Birmingham Medical Review* is 6s. per annum, post free.

NOTICE.—*All Communications, Exchanges, and Books for review, should be sent direct to the Printers and Publishers Messrs. Hall and English, 36, Union Street, Birmingham.*

ol. XLIX., No. 269. JANUARY, 1901. Price Sixpence.

THE Birmingham Medical Review:

A MONTHLY JOURNAL OF THE MEDICAL SCIENCES.

64 pp. Price 6/- per annum, post free.

BOSTON MEDICAL LIBRARY
SEP 9 1901

EDITED BY
DOUGLAS STANLEY, M.D. EDIN., M.R.C.P.
AND
JAS. W. RUSSELL, M.D. CANTAB., M.R.C.P.

Assisted by the following Editorial Committee:—

ILBERT BARLING, M.B., F.R.C.S.
. LANGLEY BROWNE, F.R.C.S.
AUL M. CHAPMAN, M.D., F.R.C.P.
CHARNLEY, M.D.
HAZELWOOD CLAYTON, M.B.
. COLLIER, M.D. F.R.C.P.
ENRY EALES, M.R.C.S.
RED. EDGE, M.D., F R.C.S., M.R.C.P.
RTHUR FOXWELL, M D., F.R.C.P.
. W. FOXCROFT, M.D.
EONARD GAMGEE, F R.C.S.
. M. HAIG, M.D.
N. F. HASLAM, F.R C.S.
GEO. HEATON, M.B. F.R.C.S.
A. BOSTOCK HILL, M.D.
J. F. JORDAN, M.B., F.R.C.S.

O. J. KAUFFMANN, M.D., M.R.C.P.
O. J. LEWIS, M.D.
JORDAN LLOYD, M.B., F.R.C.S.
ALBERT LUCAS, F.R.C.S.
C. A. MACMUNN, M.D.
H. MANLEY, M.B.
FRANK MARSH, F.R.C.S.
CHRISTOPHER MARTIN, M.B., F.R.C.S.
BENNETT MAY, M.B., F.R.C.S.
J. T. J. MORRISON, M.B., F.R.C.S.
E. N. NASON, M.B.
LLOYD OWEN, F.R.C.S.I.
J. PIETERSEN, L.R.C.P., M.R.C.S.
C. E. PURSLOW, M.D., M.R.C.P.
GUTHRIE RANKIN, M.D., F.R.C.P.

J. R. RATCLIFFE, M.B.
EDWIN RICKARDS, M.B., F.R.C.P.
ROBT. SAUNDBY, M.D., LL D., F.R.C.P.
T. SYDNEY SHORT, M.D., M.R.C.P.
ROBERT M. SIMON, M.D., F.R.C.P.
J. LIONEL STRETTON, L.R.C.P., M.R.C.S.
C. W. SUCKLING, M.D., M.R.C.P.
JOHN W. TAYLOR, F.R.C.S.
WM. THOMAS, M.B., F.R.C.S.
THOS. W. THURSFIELD, M.D., F.R.C.P.
T. LAW WEBB, L.R.C.P., M.R.C.S.
E. WOOD WHITE, M.D.
T. STACEY WILSON, M.D., M.R.C.P
THOS. WILSON, M.D., F.R.C.S.
WRIGHT WILSON, F.R.C.S., Ed.

CONTENTS:

Original Communications.

Notes on some Tuberculous Affections in Children. By EDMUND OWEN, F.R.C.S. ... 1
Remarks on the Diagnosis of Nasal Obstruction. By WILLIAM LAMB, M.D., M.R.C.P. ... 26

Reports of Societies.

British Medical Association. Birmingham and Midland Counties Branch ... 37
Midland Medical Society ... 40

Reviews of Books.

Osler, Cancer of the Stomach ... 46
Cheadle on some Cirrhoses of the Liver ... 52
Fuller, Diseases of the Genito-Urinary System ... 54
Butlin, Diseases of the Tongue ... 56
Cowen, Electricity in Gynæcology ... 58
Keetley, Orthopædic Surgery ... 59
Fenwick, Ulceration of the Bladder ... 59
Transactions of the Grant College Medical Society, Bombay... ... 60
The Australasian Medical Directory and Handbook ... 61
Purdy, Practical Uranalysis and Urinary Diagnosis ... 61
Walsh, Golden Rules of Skin Practice ... 62

New Inventions, Drugs, etc. ... 62
New Books, etc., Received ... 64

LONDON:
H. K. LEWIS, 136, GOWER STREET, W.C.
BIRMINGHAM:
HALL & ENGLISH, 36, UNION STREET.
Entered at Stationers' Hall.

SURGICAL STERILIZED DRESSINGS
IN CARTONS.

"AZOIC."

THE Dressings manufactured by the "**Azoic Dressing Co.**" deserve special attention. The process of Sterilization adopted is not only thoroughly reliable, but results in the production of small parcels of dressings ready for use, packed in inexpensive cardboard envelopes. Packages containing selections of Dressings, as follows, are prepared and the special requirements of Surgeons can be carried out with the greatest promptitude.

THE SURGEON'S ASEPTIC DRESSING CASE:

Major. CONTENTS OF EACH SEALED CASE,
Absorbent Lint, Wool, Bandages, Gauze, Iodoform Gauze, Waterproof Tissue, Drainage Tubes.

Price 36/- per dozen.

Minor. CONTENTS OF EACH SEALED CASE,
Absorbent Lint, Wool, Bandages, Gauze and Waterproof Tissue.

Price 18/- per dozen.

ASEPTIC ABSORBENT SURGEON'S LINT,
in Cartons of 1 oz., 2 oz., ¼ lb. and ½ lbs.

ASEPTIC ABSORBENT WOOLS,
in Cartons of 1 oz., 2 oz., ¼ lb. and ½ lbs.

ASEPTIC BANDAGES,
in Cartons, each containing 1 dozen bandages, 6 yards in length,
2in. wide, per carton of 1 doz. **1/8** 3in wide, per carton of 1 doz. **2/6**
2½in. „ „ „ **2/-** 4in. „ „ „ **3/3**

ASEPTIC FINGER BANDAGES,
in Cartons, containing 1 dozen, 3 yards in length.

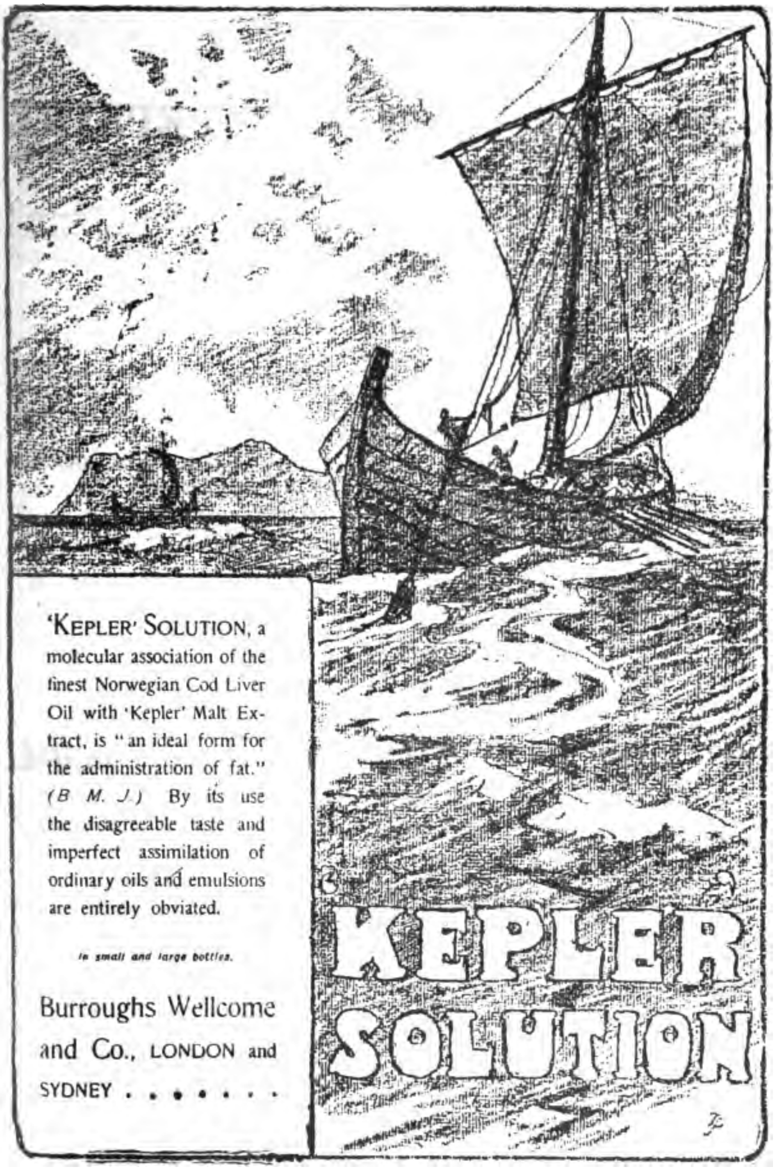
Price 1/-

ASEPTIC ABSORBENT GAUZE, in Cartons.

ASEPTIC ABSORBENT GAUZE TISSUE,
in Cartons containing 4 oz. and 8 oz. in each.

☛ In ordering please ask for the "AZOIC DRESSINGS."

T. & W. & W. SOUTHALL,
BIRMINGHAM.



'KEPLER' SOLUTION, a molecular association of the finest Norwegian Cod Liver Oil with 'Kepler' Malt Extract, is "an ideal form for the administration of fat." *(B. M. J.)* By its use the disagreeable taste and imperfect assimilation of ordinary oils and emulsions are entirely obviated.

In small and large bottles.

Burroughs Wellcome
and Co., LONDON and
SYDNEY . . . .

[COPYRIGHT]

BULLOCK'S PEPSINA PORCI.

DOSE—2 to 4 grains.

ACID GLYCERINE OF PEPSINE
(BULLOCK).

DOSE—1 to 2 drms.

In this preparation advantage has been taken of the solubility of Pepsine in Glycerine to produce a convenient and desirable *liquid form* of this valuable medicine; whilst the preservative qualities of the menstruum confer upon the Acid Glycerine of Pepsine the property of keeping for any length of time.

May be prescribed with most substances compatible with acids.
In 4 oz., 8 oz., and 16 oz. Bottles, and in bulk.

The published experiments of G. F. DOWDESWELL, Esq., M.A., Cantab., F.C.S. F.L.S., &c.; Dr. PAVY. Professor TUSON, the late Professor GARROD. Dr. ARNOLD LEES, and others, conclusively demonstrate the excellence, high digestive power and medicinal value of the above preparations.

⁂ *In prescribing the above Preparations it is suggested to insert in parentheses as follows:—(BULLOCK).*

J. L. BULLOCK & CO.,

3, HANOVER STREET, HANOVER SQUARE, LONDON, W.

THE MOAT HOUSE, TAMWORTH, STAFFORDSHIRE.

STATIONS L. & N. WEST. and MID. RAILWAYS.

A HOME FOR NERVOUS AND MENTAL CASES.

The House stands i grounds of ten acres (withi 5 minutes' drive of eithe station), and is devoted to th care and treatment of a fe Ladies suffering from nervou and mental disorders, wh enjoy the comforts, privac and occupations of home life Voluntary patients are received without certificates.

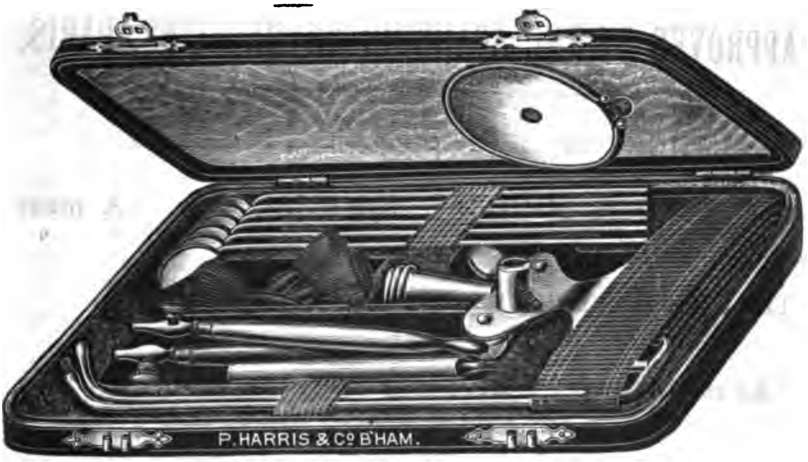
For terms, etc., apply to the Resident Proprietor E. HOLLINS, M.A., Camb., J.P.

PHILIP HARRIS & CO. Ltd.,

LARYNGOSCOPE,

30/- complete,

consisting of large Head Mirror with patent arrangement for replacing mirror in case of breakage, Head Band, etc.; 6 Mirrors, 2 Handles, Probe, 3 Brushes, complete in case.


P. HARRIS & Cº B'HAM.

30/- complete.

Surgical Appliance Makers,

144 & 146, EDMUND STREET,
BIRMINGHAM.

Telephone No. 10. **Telegraphic Address: "Science," Birmingham.**

"APENTA"

Natural Hungarian Aperient Water.

Bottled at the Springs, Budapest, Hungary.

These Springs and their exploitation are under the scientific supervision of Professor Dr. Joseph de Fodor, Director of the Hygienic Institute, Royal University, Budapest.

APPROVED BY THE ACADÉMIE DE MÉDECINE, PARIS.

The LANCET says: "Its composition is constant."

The BRITISH MEDICAL JOURNAL says: "A most useful Aperient."

The PRACTITIONER says: "An ideal purgative."

"An excellent, very active purgative."

DR. E. LANCEREAUX,
Professeur à la Faculté de Médecine, Paris;
Médecin honoraire des Hôpitaux;
Membre de l'Académie de Médecine.

"The water is constant in its composition."

DR. G. POUCHET,
Professor of Pharmacology in the Faculty of Medicine of Paris.

"Its use does not give rise to subsequent constipation."

PROFESSOR W. S. BOGOSLOWSKY,
Director of the Pharmacological Institute of the Moscow University.

SOLE IMPORTERS:

THE APOLLINARIS COMPANY, Ltd., LONDON, W.

THE TEST OF TIME AND EXPERIENCE.

THIRTY YEARS OF CONFIDENCE
on the part of the Profession have established, beyond all question that

SYR. HYPOPHOS. CO. FELLOWS

is the

REMEDY—PAR EXCELLENCE—

in Anæmia, Neurasthenia, Bronchitis, and Influenza, and during Convalescence from exhausting diseases.

It contains—Hypophosphites of Iron, Quinine, Strychnine, Lime, Manganese, and Potash.
Each fluid drachm contains the equivalent of 1-64th grain of pure Strychnine.

SPECIAL NOTE.—Fellows' Syrup of Hypophosphites is NEVER SOLD IN BULK, and is advertised only to the Medical Profession. Physicians are cautioned against worthless substitutes.

Medical Letters may be addressed to—

Mr. FELLOWS, 94, Paul Street, Finsbury, London, E.C.

LITERATURE OF VALUE WILL BE SENT ON APPLICATION.

Atonic Dyspepsia.

Infantile Diarrhœa.

Morning Sickness.

LACTOPEPTINE

is a combination of all the digestive agents and is superior to Pepsin alone; it gives tone to the stomach and re-establishes suspended function.

Dose: 10—15 grs.

FORMULA:

Sugar of Milk	**40 ounces.**
Pepsin (Pure)	**8 „**
Pancreatine (Pure)	**6 „**
Veg. Ptyalin or Diastase ...	**4 drachms.**
Lactic Acid	**5 fl. „**
Hydrochloric Acid	**5 fl. „**

PRESCRIBED

In all abnormal conditions of the Digestive Tract: in indigestion, loss of appetite, Chronic Diarrhœa, impoverished blood, &c.

Marketed in 5-gr. Tablets and Powdered Form: In 1-oz., 4-oz., and 8-oz. bottles, prices respectively for dispensing purposes **3/5, 10/9, 20/10** post free.

JOHN MORGAN RICHARDS, 46, Holborn Viaduct, London.

Ideal Milk

(PRESERVED WITHOUT SUGAR.)

Prepared by the

Anglo-Swiss Condensed Milk Co.,

Makers of the

World-Famous

MILKMAID

Brand.

IDEAL MILK is pure UNSWEETENED Condensed Milk, preserved solely by sterilizing, and is absolutely free from chemical or other preservative.

IDEAL MILK is enriched 20 per cent. by the addition of pure cream, and is therefore exceptionally nutritious.

IDEAL MILK is superior to any sterilized milk yet produced, in richness, in flavour, and in the retention of all the qualities of fresh milk.

IDEAL MILK is a safe and valuable food for infants and invalids, and serviceable for all household purposes.

Milk with these qualities requires no further commendation. Try Ideal Milk and recommend it to your friends.

ASK YOUR GROCER FOR IT.

"THE LANCET" on

VAN HOUTEN'S COCOA.

"In a recent analysis
" which we have made, the results
" distinctly indicate the advantage of
" VAN HOUTEN'S PROCESS of manu-
" facture. Thus this Cocoa yields
" a decoction containing a maximum
" proportion of the valuable food
" constituents of the bean, and what
" is of more importance still, these
" are presented in a condition more
" easy of assimilation and digestion
" than in Cocoa not so prepared."

TELEPHONE No. 3511.

ENGLISH AND FOREIGN PHARMACY.

FIVE WAYS, EDGBASTON, BIRMINGHAM.

T. CHASE,

PHARMACEUTICAL CHEMIST.

The strictest accuracy and attention given to the Dispensing of Medicines. Drugs, Chemicals, and Pharmaceutical Preparations of the highest quality. Foreign Prescriptions are dispensed in strict accordance with the Pharmacopœias of their respective countries. As new Chemicals and Pharmaceutical Preparations are introduced, they will be added to the stock.

Technical Analyses of all kinds conducted.

Every Description of Aerated and Mineral Waters.

Gold Medals, Paris, 1878 : 1889.

JOSEPH GILLOTT'S

Of Highest Quality, and Having Greatest Durability are Therefore CHEAPEST.

PENS

Where **Pain** is a prominent sympton, AK is a desideratum; its province is relief of Pain in every and any form. Best of all, there is no danger of Morphinism, no Nausea, no Malaise so common with opium.

Will not Depress the Heart.

NO DRUG HABIT INDUCED — NO TOXIC EFFECT.

Antikamnia

OPPOSED TO PAIN.

Analgesic. Antipyretic. Anodyne.

WINTER COUGHS.

In acute attack of laryngeal or winter cough, tickling and irritability of larynx, **Antikamnia & Codeine Tablets** are excedingly trustworthy. If the irritation or spasm prevails at night, the patient should take a 5-gr. tablet containing 4¾-gr Antikamnia. and ¼-gr. Sulphate Codeine, an hour before retiring and repeat hourly until the irritation is allayed.

Antikamnia (finely powdered).
Antikamnia Tablets (Five Grains each).
Antikamnia Laxative Tablets.
Antikamnia & Codeine Tablets.
Antikamnia & Salol Tablets.
Antikamnia & Quinine Tablets.
Antikamnia & Quin. Laxative Tablets.
Antikamnia Quin. & Salol Tablets.

Marketed in one ounce packages only, price for dispensing purposes, 3/10 post free.

NEVER IN BULK. ALL TABLETS MONOGRAMMED.

THE ANTIKAMNIA CHEMICAL CO.,
46, Holborn Viaduct, E.C.

CHELTINE ANÆMIC FOOD.

Specially prepared for all suffering from any form of Anæmia. It is not intended as a supplanter of Medical treatment but as a supplement to it. It is compounded of valuable food products, containing a small proportion of Mineral Salts. The iron is in the form of a natural organic compound, and is therefore non-astringent and easily assimilated. It does not decompose in the mouth, and therefore will not discolour the teeth. It does not cause headache nor derange the digestive organs. Cheltine Anæmic Food is an unique preparation, extremely palatable, containing all the elements of a perfect Food. It will be found a valuable adjunct to the Medicinal treatment of Anæmic patients. In tins 1/- and 2/6 each. Write for a sample and particulars.

We are also Sole Manufacturers of "Cheltine" Diabetic Food, Dyspeptic Food, Invalids' Food, and Infants' Food.

WORTH'S FOODS SYNDICATE LTD., CHELTENHAM.

J. F. THORNEYWORK,

MANUFACTURER OF

Artificial Limbs, Trusses, Surgical Instruments,

ELASTIC STOCKINGS, KNEE CAPS, ABDOMINAL BELTS, &c.,

33, JOHN BRIGHT STREET, BIRMINGHAM.

☞ Instrument Maker to the Birmingham Orthopædic Hospital. for the Cure of Bodily Deformities. Newhall Street; General and Queen's Hospitals; Dudley Dispensary; Stafford Infirmary; Cottage Hospital. Walsall; and Guest Hospital, Dudley.

DOWN BROS.'

Surgical Instruments
and Aseptic Hospital Furniture,

AWARDED

THE GRAND PRIX,

(HIGHEST POSSIBLE AWARD)

PARIS EXHIBITION, 1900.

Twentieth Century Edition new Illustrated Catalogue, 1200 pages now ready, issued to members of the Medical Profession on application.

DOWN BROS.,

Surgical Instrument Manufacturers,

21, St. THOMAS'S STREET (OPPOSITE GUY'S HOSPITAL),

LONDON, S.E.

FACTORY—King's Head Yard, Borough. **Telegraphic Address: "Down—London."**

Telephone, 965 "Hop."

NESTLÉ'S

CONDENSED SWISS MILK.

The Richest in Cream.

……

PERCENTAGE of BUTTER FAT.

Six Samples of **NESTLÉ'S MILK** bought at random at Six different Shops, and analysed by **Mr. OTTO HEHNER,** late President of the Society of Public Analysts, contained

AN AVERAGE OF

13·13 PER CENT. OF BUTTER FAT.

Sample Tin sent free to the Medical Profession on application to
HENRI NESTLÉ, 48, CANNON STREET, LONDON, E.C.

***** Messrs. NESTLÉ having obtained the GRAND PRIZE at the PARIS EXHIBITION in 1889, and being selected on the Grand Jury for the late Exhibition were debarred from entering their Goods for Competition.**

ASHWOOD HOUSE, KINGSWINFORD

A PRIVATE ASYLUM FOR LADIES AND GENTLEMEN.

Proprietors:

HENRY GEORGE PEACOCK, L.R.C.P. Ed., M.R.C.S. Eng., L.S.A. Lond..

Formerly Resident Medical Officer in charge of the Dorset County Asylum, Forston. and

JAMES F. G. PIETERSEN, L.R.C.P., Lond.; M.R.C.S., Eng.;

(*Late Senior Medical Officer, Camberwell House Asylum, London,*)

Late Bodington and Peacock, Co-Licensees.

ASHWOOD HOUSE is a large Mansion in the County of Stafford, close upon the borders of Worcestershire. It is very substantially built, and is situated upon an elevated spot, commanding extensive views. The Rooms are large, lofty, and cheerful, and the house, both inside and outside, has entirely the air and character of a gentleman's private residence. The soil is sand and gravel, has excellent natural drainage, and is very dry. The gardens and grounds, about forty acres in extent, are well planted with shrubs and ornamental timber, and are extremely picturesque. The climate is genial, and the locality notoriously healthy. The country around is secluded and quiet, and affords a great variety of beautiful walks and drives amidst very charming scenery.

The Patients associate with the family, and have every possible freedom allowed them consistent with safety.

Carriage exercise is provided for those Patients whose friends desire it. Suites of Private Apartments and Special Attendants may be engaged if desired.

There is a Billiard Room, and a very fine Tennis Lawn, together with a variety of other means of recreation and amusement. Books, Magazines, and Periodicals are provided.

Divine Service, conducted by the Vicar of Kingswinford, is held in the House every Sunday Afternoon.

This Asylum was formerly carried on at Driffold House, Sutton Coldfield, where, for thirty-six years, it was in the hands of Dr. Bodington and his father. The establishment, owing to the expiration of the lease of the premises, was removed to Ashwood House, in the year 1872.

STOURBRIDGE is the nearest Railway Station.

Postal Address:—

ASHWOOD HOUSE,
KINGSWINFORD, NEAR DUDLEY.

J. WRIGHT CO., Bristol. RECENT PUBLICATIONS.

JUST PUBLISHED. Large 8vo, about 650 pages. **10s. 6d.** *net.*

With over 500 Original Pen and Ink Illustrations by the Author, and numerous woodcuts

OPERATIVE & PRACTICAL SURGERY:

FOR THE USE OF STUDENTS AND PRACTITIONERS.

By THOS. CARWARDINE, M.S. (Lond.), F.R.C.S., ***Asst. Surgeon Bristol Royal Infirmary.***

With special chapters on the Eye, Ear, and Teeth by Messrs. F. R. CROSS, W. H. HARSANT and W. R. ACKLAND. On the Nose and Larynx by Dr. P. WATSON WILLIAMS, and Surgical Bacteriology by Dr. J. O. SYMES.

This book is intended to assist the Student and Practitioner in the application of Operative and Practical Surgery, and to supplement the many excellent works on Scientific Surgery. The author hopes to have supplied a need for a freely illustrated and eminently practical manual.

Large 8vo, **8s. 6d.** *net, Post Free.*

INTRODUCTION TO DERMATOLOGY.

By NORMAN WALKER, M.D., F.R.C.P., Edin.,

Asst. Phy. for Dis. of Skin to Roy. Infirm, Edinburgh.

With a Frontispiece, 29 Plates (of which 15 are in Colour), & 34 Illustrations in the Text.

"Contains what is best in the Hamburgh treatment, toned down by common sense."—*Brit. Jour. of Dermat.* "Sure to be useful and popular not only with the student but with the practitioner." —*Scott. Med. Jour.*

Crown 8vo, copiously Illustrated. **10s. 6d.** *net, Post Free.*

Illustrated with 112 Diagrams and Figures, most of which are original.

TESTS & STUDIES OF THE OCULAR MUSCLES.

By ERNEST E. MADDOX, M.D., F.R.C.S. Edin.

"Of the greatest utility as a book of reference. We can thoroughly recommend it."—*Brit. Med. Jour.*
"It is very suggestive and places many points in a new and interesting light."—*Lancet.*
"The book is packed full of good matter which is very ably presented."—*Glasg. Med. Journ.*

Waistcoat Pocket Size. Paper Covers. **1s.** *each. (To be continued.)*

"GOLDEN RULES" SERIES

IN MEDICINE AND SURGERY.

I.—Sixth Edition. **GOLDEN RULES OF SURGICAL PRACTICE.** By E. HURRY FENWICK, F.R.C.S., Surg. to Lond. Hosp. & St. Peter's Hosp. for Stone.

II.—Third Edition—Reprint. **GOLDEN RULES OF GYNÆCOLOGY.** By S. JERVOIS AARONS, M.D., Registrar to Hosp. for Women, Soho.

III.—Second Edition—Reprint. **GOLDEN RULES OF OBSTETRIC PRACTICE.** By W. E. FOTHERGILL, M.A., B.Sc., M.D., Author of "*A Manual of Midwifery,*" etc., etc.

IV.—Second Edition—Reprint. **GOLDEN RULES OF MEDICAL PRACTICE.** By A. H. EVANS, M.D., B.S., F.R.C.P., House Surg. Westminster Hosp.

V.—Now Ready. **GOLDEN RULES OF PSYCHIATRY.** By JAS. SHAW, M.D. Formerly Med. Supt. and Co-Licensee, Haydock Lodge Asylum. Author of "*Epitome of Mental Diseases.*"

VI.—Now Ready. **GOLDEN RULES OF PHYSIOLOGY.** By I. WALKER HALL, M.B., Ch.B. the Owens Coll., and J. ACKWORTH MENZIES, M.D., C.M., late of the Owens Coll.

VII.—Now Ready. **GOLDEN RULES OF OPHTHALMIC PRACTICE.** By G. HARTRIDGE F.R.C.S., Sen. Surg. Roy. Westminster Ophthal. Hosp.

"Aphorisms and maxims of the greatest possible use."—*Lancet.* "Admirable examples of what can be done in the way of condensation."—*Clin. Journ.*

Large 8vo. New and Revised Edition. Many Illustrations. **7s. 6d.** *net.*

THE TREATMENT OF DISEASE BY PHYSICAL METHODS. Being the Third Edition of "LECTURES ON MASSAGE AND ELECTRICITY." Carefully Revised and in part re-written with additional matter. By THOS. STRETCH DOWSE, M.D., F.R.C.P. Edin

BRISTOL JOHN WRIGHT & CO.

LONDON: SIMPKIN & CO. LTD. HIRSCHFELD BROS., BREAM'S BU

MEDICAL WINES.

	Per Doz. Botts.	Per Doz. ½-Botts.
No. 1. French Red Wine ...	22s.	12s.
„ 2. French Red Wine (fuller bodied)	26s.	14s.
„ 3. Australian Red Wine ...	28s.	15s.
„ 4. Hungarian Red Wine ...	26s.	14s.
„ 5. Portuguese Red Wine ...	42s.	22s.
„ 6. White Moselle	26s.	14s.
„ 7. Champagne ("Jules Delporte"), Extra Sec.	75s.	40s.

(Bottles and Cases included.)

TERMS.

SAMPLES charged at list price, sent carriage paid.

ORDERS.—Over one doz. sent carriage paid to any railway station in the United Kingdom.

ORDERS must be accompanied with CASH or BANKER'S REFERENCE. 2½ per cent. cash or one month's credit.

Copies of Analysis, Press Notices, & Reports sent immediately on application to the

SOLE IMPORTERS—

INNES SMITH & CO.,

Telegram : "VITESSE."
Telephone 866.

83, HIGH STREET,
BIRMINGHAM.

Scottish Provident Institution.

Table of Premiums by Life and Limited Payment,

For Assurance of £1000 at Death-with Profits.

Age next Birthday.	Annual Premium payable during Life.	ANNUAL PREMIUM LIMITED TO 25 Payments.	20 Payments.	15 Payments.	Age next Birthday.
21	£18 2 6	£24 8 4	£27 13 4	£33 5 10	21
22	18 7 6	24 12 6	27 17 6	33 11 8	22
23	18 11 8	24 15 10	28 1 8	33 15 10	23
24	18 15 10	24 19 2	28 5 0	34 0 0	24
25	19 0 0	25 1 8	28 8 4	34 4 2	25
26	19 5 0	25 5 0	28 12 6	34 9 2	26
27	19 11 8	25 10 0	28 18 4	34 15 10	27
28	19 19 2	25 15 10	29 4 2	35 3 4	28
29	20 6 8	26 2 6	29 11 8	35 11 8	29
30	20 15 0	26 10 0	29 19 2	36 0 10	30
31	21 5 0	26 17 6	30 7 6	36 10 10	31
32	21 14 2	27 6 8	30 17 6	37 1 8	32
33	22 5 0	27 15 10	31 7 6	37 14 2	33
34	22 15 10	28 6 8	31 18 4	38 6 8	34
35	23 8 4	28 17 6	32 10 0	39 0 0	35
36	24 1 8	29 10 0	33 2 6	39 15 0	36
37	24 16 8	30 2 6	33 15 10	40 10 0	37
38	25 12 6	30 15 10	34 9 2	41 4 2	38
39	26 9 2	31 10 0	35 4 2	42 0 0	39
40	27 7 6	32 5 0	35 19 2	42 16 8	40
41	28 6 8	33 0 10	36 15 10	43 15 0	41
42	29 6 8	33 18 4	37 13 4	44 14 2	42
43	30 9 2	34 16 8	38 12 6	45 15 0	43
44	31 12 6	35 17 6	39 13 4	46 16 8	44
45	32 17 6	37 0 0	40 15 10	48 1 8	45
46	34 4 2	38 5 0	42 0 10	49 7 6	46
47	35 14 2	39 11 8	43 7 6	50 16 8	47
48	37 6 8	41 0 10	44 17 6	52 8 4	48
49	39 0 10	42 12 6	46 9 2	54 1 8	49
50	40 15 10	44 5 10	48 2 6	55 16 8	50

The non-profit rates of other Offices differ little from these Premiums, so that persons who assure with them throw away the prospect of additions from the profits without any compensating advantages.

PAID-UP POLICIES.

Under all Limited Payment and Endowment Tables the Assured, on discontinuing payments, may obtain a paid-up policy for such proportion of the sum originally assured as the number of premiums paid bears to the number payable.

GUARANTEE INVESTMENT.

Particulars may be had on application of a SCHEME under which there is *guaranteed* an INCOME DURING LIFE equivalent in many cases to about 3 per cent. per annum on amount invested, along with a PAID-UP POLICY OF ASSURANCE to return at death the amount of the Capital, with such profits as may be added.

Annuities and Endowments on favourable terms. Rates and Proposal Forms on application to

BIRMINGHAM OFFICE:—95, COLMORE ROW.

Advertisement continued on back of Cover.

MUTUAL ASSURANCE WITH MODERATE PREMIUMS.

Scottish Provident Institution.

BIRMINGHAM OFFICE—95, COLMORE ROW.

ECONOMY—EQUITY—SECURITY.

THIS SOCIETY differs in its principles from other Offices. Its terms are specially adapted to the requirements of Medical Men and others whose Income is dependent on continuance of health.

INSTEAD of charging rates higher than are necessary, and afterwards returning the excess in the shape of periodical Bonuses, it gives from the first as large an Assurance as the Premiums will with safety bear, reserving the *whole Surplus for those Members who survive the period at which their premiums, with compound interest at 4 per cent. amount to the sums assured*—no share being given to those by whose earlier death there is actual *loss* to the Common Fund.

The WHOLE PROFITS go to the Policyholders, on the above system which is at once safe, equitable, and favourable to good lives. The SEVENTH SEPTENNIAL INVESTIGATION showed a SURPLUS of £1,423,018 which, after reserving £391,796 for future division, was divided among 13,220 Policies entitled. The first Bonuses ranged from 15 and 18 to upwards of 30 per cent. on Sums Assured.

The next Division of Profits will be made at 31st December, 1901.

FUNDS OVER £11,500,000.

The PREMIUMS are so moderate that at most ages an assurance of £1200 or £1250 may be secured from the first for the same yearly payment which would generally elsewhere assure (with profits) £1000 only,—the difference being equivalent to an immediate and certain "Bonus" of 20 to 25 per cent.

Annual Premiums for £100 at Death (with Profits).

AGE NEXT BIRTHDAY ...	25			*30			35			40			45			50		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Payable during Life	1	18	0	2	1	6	2	6	10	2	14	9	3	5	9	4	1	7
Limited to 25 Payments ...	2	10	2	2	13	0	2	17	9	3	4	6	3	14	0	4	8	7

* Thus a person of 30 may secure £1,000 at death by a yearly payment, *during life*, of £20. 15s. This Premium, in any other of the Scottish Mutual Offices, would secure **£800** only, instead of **£1,000.** The without profit rates of other Offices *differ little from these*, so that Assurers with them virtually *throw away the prospect of additions without any compensating advantage*.

Or, if unwilling to burden himself with payments during whole life, he may secure the same £1,000 by *twenty-five* yearly payments of £26. 10s.—*being thus relieved from payment at a comparatively early age.*

ENDOWMENT ASSURANCES with guaranteed rates of bonus are now issued on very favourable terms, and will be found specially suitable to those requiring the use of the sum assured during advanced age.

Reports, with full information, and Proposal Forms may be had on application to the Midland Branch,

95, Colmore Row, Birmingham GEO. A. PANTON, *Res. Secretary.*

See also inside cover.

NEARLY READY. **PRICE 7/6 NET, Post Free.** **Subscribers have priority in delivery.**

NINETEENTH YEAR, 8vo, Cloth, about 900 pages.

Copiously Illustrated and with many Full-page Plates, some of which are finely Coloured.

THE MEDICAL ANNUAL, 1901,

And Year Book of Treatment. A Complete Work of Reference for Practitioners, alphabetically arranged, combining an Annual Retrospect, with a Medical Encyclopædia.

CONTRIBUTORS AND CONTRIBUTIONS.

Robt. Abbe, M.D., New York.
A. L. Fisk, M.D., NewYork. *Brain & Spinal Surgery.*
Herbert W. Allingham, F.R.C.S. *Rectal Surgery*
Prof. E. A. Ayers, A.M., M.D., N. York. *Obstetrics.*
J. Cantlie, M.A., M.B., F.R.C.S. *Tropical Diseases.*
Prof. Alfred H. Carter, M.D., F.R.C.P., Birmingham. *Heart Diseases*
Prof. Hy. Dwight Chapin, M.A., M.D., New York. *Pediatrics.*
J. E. Cooney, L.R.C.P., D.P.H., Camb., of the Middle Temple, Barrister-at-Law. *Medico-Legal Decisions.*
F. Richardson Cross, M.B., F.R.C.S., Bristol. *Ophthalmology.*
F. W. Edridge-Green, M.D., late Member Internat Code of Signals Com. *Colour Blindness, &c.*
E. Hurry Fenwick, F.R.C.S. *Urinary Surgery.*
T. Colcott Fox, B.A., F.R.C.P. *Skin Diseases.*
H. Bellamy Gardner, M.R.C.S., L.R.C.P. *Anæsthesia.*
Arthur E. Giles, B.Sc., M.D., F.R.C.S. *Gynæcology.*
Edward W. Goodall M.D. *Fevers.*
J. Dundas Grant, M.A., M.D., F.R.C.S. *Ear Diseases.*
Prof. Græme M. Hammond, A.M., M.D., New York. *Neurology.*
Robt. Jones, F.R.C.S., Liverpool.
A. H. Tubby, M.S., M.B. *Orthopædics*
Priestley Leech, M.D., F.R.C.S., Halifax. *General Surgery.*
Prof. Hy. P. Loomis, M.D., New York. *Pulmonary Diseases.*
Prof Jos. M'Farland, M.D., Philadelphia *Toxins and Anti-Toxins.*
J. Macintyre, M.B., C.M., Glasgow. *X-Ray Work.*
Chas F. Marshall, M.D., F.R.C.S. *Syphilis.*
W. Milligan, M.D., Manchester. *Nose and Throat.*
Keith W. Monsarrat, F.R.C.S., Liverpool. *Cancer.*
Wm. Murrell, M.D., F.R.C.P. *Therapeutics.*
Joseph Priestley, B.A., M.D., D.P.H. *Sanitary Science.*
Boardman Reed, M.D., Philadelphia *Stomach Disorders.*
Prof. C. Ruata, Perugia, Italy. *Pulmonary Tuberculosis.*
Prof. Robt. Saundby, M.D., F.R.C.P.E., LL.D., Birmingham. *Renal and Urinary Diseases.*
Jas Shaw, M.D., Liverpool. *Insanity.*
Walter G. Spencer, M.S., F.R.C.S. *Abdominal Surgery.*
Jos. Geo. Turner, F.R.C.S., L.D.S. *Dental and Oral Surgery.*

PRESS OPINIONS

"Of especial benefit to those in general practice—gives the most recent information—will often provide a suggestion for treatment at the moment it is needed."—*Lancet.*

"Have been surprised to learn how wide was its scope, and how exhaustive its contents. Have come to place very great reliance upon it."—*New York Med. Journ.*

"Of great utility to the practitioner—a trustworthy work of reference."—*Brit. Med. Journ.*

"The strong point is its markedly practical character."—*Intern. Med. Mag.*

"Nothing but praise can be awarded."—*Clin. Journ.*

"In every way a valuable book."—*Bristol Med. Journ.*

"No practitioner can read it without being amply repaid—helpful suggestions on every page."—*American Lancet.*

"A pleasure to recommend it."—*Johns Hopkins Hosp. Bull.*

"Were a practitioner so situated that he could buy but one volume in the year this should be the one."—*Chicago Clin. Rev.*

"Improves in its usefulness every year."—*Annals of Surg.*

"Gives just the essential statement with sufficient fulness for the practitioner's guidance."—*Med. Press & Circ.*

"Most acceptable to the busy doctor. Full from cover to cover of the most recent information, epitomised in such a manner as to be perused in a short time."—*Canadian Journ. of Med. and Surg.*

BRISTOL: JOHN WRIGHT & CO. LONDON: SIMPKIN & CO. LTD.

MEDICAL WINES.

		Per Doz. Botts.	½-Botts.
No. 1.	French Red Wine ...	22s.	12s.
„ 2.	French Red Wine (fuller bodied)	26s.	14s.
„ 3.	Australian Red Wine ...	28s.	15s.
„ 4.	Hungarian Red Wine ...	26s.	14s.
„ 5.	Portuguese Red Wine ...	42s.	22s.
„ 6.	White Moselle	26s.	14s.
„ 7.	Champagne ("Jules Delporte"), Extra Sec.	75s.	40s.

(Bottles and Cases included.)

TERMS.

SAMPLES charged at list price, sent carriage paid.

ORDERS.—Over one doz. sent carriage paid to any railway station in the United Kingdom.

ORDERS must be accompanied with CASH or BANKER'S REFERENCE. 2½ per cent. cash or one month's credit.

Copies of Analysis, Press Notices, & Reports sent immediately on application to the

SOLE IMPORTERS—

INNES SMITH & CO.,

Telegram : "VITESSE."
Telephone 866.

83, HIGH STREET,
BIRMINGHAM.

Scottish Provident Institution.

Table of Premiums by Life and Limited Payment,

For Assurance of £1000 at Death-with Profits.

Age next Birthday.	Annual Premium payable during Life.	ANNUAL PREMIUM LIMITED TO			Age next Birthday.
		25 Payments.	20 Payments.	15 Payments.	
21	£18 2 6	£24 8 4	£27 13 4	£33 5 10	21
22	18 7 6	24 12 6	27 17 6	33 11 8	22
23	18 11 8	24 15 10	28 1 8	33 15 10	23
24	18 15 10	24 19 2	28 5 0	34 0 0	24
25	19 0 0	25 1 8	28 8 4	34 4 2	25
26	19 5 0	25 5 0	28 12 6	34 9 2	26
27	19 11 8	25 10 0	28 18 4	34 15 10	27
28	19 19 2	25 15 10	29 4 2	35 3 4	28
29	20 6 8	26 2 6	29 11 8	35 11 8	29
30	20 15 0	26 10 0	29 19 2	36 0 10	30
31	21 5 0	26 17 6	30 7 6	36 10 10	31
32	21 14 2	27 6 8	30 17 6	37 1 8	32
33	22 5 0	27 15 10	31 7 6	37 14 2	33
34	22 15 10	28 6 8	31 18 4	38 6 8	34
35	23 8 4	28 17 6	32 10 0	39 0 0	35
36	24 1 8	29 10 0	33 2 6	39 15 0	36
37	24 16 8	30 2 6	33 15 10	40 10 0	37
38	25 12 6	30 15 10	34 9 2	41 4 2	38
39	26 9 2	31 10 0	35 4 2	42 0 0	39
40	27 7 6	32 5 0	35 19 2	42 16 8	40
41	28 6 8	33 0 10	36 15 10	43 15 0	41
42	29 6 8	33 18 4	37 13 4	44 14 2	42
43	30 9 2	34 16 8	38 12 6	45 15 0	43
44	31 12 6	35 17 6	39 13 4	46 16 8	44
45	32 17 6	37 0 0	40 15 10	48 1 8	45
46	34 4 2	38 5 0	42 0 10	49 7 6	46
47	35 14 2	39 11 8	43 7 6	50 16 8	47
48	37 6 8	41 0 10	44 17 6	52 8 4	48
49	39 0 10	42 12 6	46 9 2	54 1 8	49
50	40 15 10	44 5 10	48 2 6	55 16 8	50

The non-profit rates of other Offices differ little from these Premiums, so that persons who assure with them throw away the prospect of additions from the profits without any compensating advantages.

PAID-UP POLICIES.

Under all Limited Payment and Endowment Tables the Assured, on discontinuing payments, may obtain a paid-up policy for such proportion of the sum originally assured as the number of premiums paid bears to the number payable.

GUARANTEE INVESTMENT.

Particulars may be had on application of a SCHEME under which there is *guaranteed* an INCOME DURING LIFE equivalent in many cases to about 3 per cent. per annum on amount invested, along with a PAID-UP POLICY OF ASSURANCE to return at death the amount of the Capital, with such profits as may be added.

Annuities and Endowments on favourable terms. Rates and Proposal Forms on application to

BIRMINGHAM OFFICE:—95, COLMORE ROW.

Advertisement continued on back of Cover.

MUTUAL ASSURANCE WITH MODERATE PREMIUMS.

Scottish Provident Institution.

BIRMINGHAM OFFICE—95, COLMORE ROW.

ECONOMY — EQUITY — SECURITY.

THIS SOCIETY differs in its principles from other Offices. Its terms are specially adapted to the requirements of Medical Men and others whose Income is dependent on continuance of health

INSTEAD of charging rates higher than are necessary, and afterwards returning the excess in the shape of periodical Bonuses, it gives from the first as large an Assurance as the Premiums will with safety bear, reserving the *whole Surplus for those Members who survive the period at which their premiums, with compound interest at 4 per cent. amount to the sums assured*—no share being given to those by whose earlier death there is actual *loss* to the Common Fund.

The WHOLE PROFITS go to the Policyholders, on the above system which is at once safe, equitable, and favourable to good lives. The SEVENTH SEPTENNIAL INVESTIGATION showed a SURPLUS of £1,423,018 which, after reserving £391,796 for future division, was divided among 13,220 Policies entitled. The first Bonuses ranged from 15 and 18 to upwards of 30 per cent. on Sums Assured.

The next Division of Profits will be made at 31st December, 1901,

FUNDS OVER £11,500,000.

The PREMIUMS are so moderate that at most ages an assurance of £1200 or £1250 may be secured from the first for the same yearly payment which would generally elsewhere assure (with profits) £1000 only,—the difference being equivalent to an immediate and certain "Bonus" of 20 to 25 per cent.

Annual Premiums for £100 at Death (with Profits).

AGE NEXT BIRTHDAY ...	25	*30	35	40	45	50
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Payable during Life	1 18 0	2 1 6	2 6 10	2 14 9	3 5 9	4 1 7
Limited to 25 Payments ...	2 10 2	2 13 0	2 17 9	3 4 6	3 14 0	4 8 7

* Thus a person of 30 may secure £1,000 at death by a yearly payment, *during life*, of £20. 15s. This Premium, in any other of the Scottish Mutual Offices, would secure £800 only, instead of **£1,000.** The without profit rates of other Offices *differ little from these*, so that Assurers with them virtually *throw away the prospect of additions without any compensating advantage*.

Or, if unwilling to burden himself with payments during whole life, he may secure the same £1,000 by *twenty-five* yearly payments of £26. 10s.—*being thus relieved from payment at a comparatively early age.*

ENDOWMENT ASSURANCES with guaranteed rates of bonus are now issued on very favourable terms, and will be found specially suitable to those requiring the use of the sum assured during advanced age.

Reports, with full information, and Proposal Forms may be had on application to the Midland Branch,

95, Colmore Row, Birmingham GEO. A. PANTON, *Res. Secretary.*

See also inside cover.

l. *XLIX., No. 272.* APRIL, 1901. *Price Sixpence.*

THE
Birmingham Medical Review:

A MONTHLY JOURNAL OF THE MEDICAL SCIENCES.

64 pp. Price 6/- per annum, post free.

BOSTON MEDICAL LIBRARY
MAR 22 1902

EDITED BY

DOUGLAS STANLEY, M.D. EDIN., M.R.C.P.

AND

JAS. W. RUSSELL, M.D. CANTAB., M.R.C P.

Assisted by the following Editorial Committee:—

ilbert Barling, M.B., F.R.C.S.
. Langley Browne, F.R.C.S.
ul M. Chapman, M.D., F.R.C.P.
. Charnley, M.D.
Hazelwood Clayton, M.B.
Collier, M.D. F.R.C.P.
enry Eales, M.R.C.S.
red. Edge, M.D., F R.C.S., M.R.C.P.
rthur Foxwell, M D., F.R.C.P.
. W. Foxcroft, M.D.
eonard Gamgee, F R.C.S.
. M. Haig, M.D.
. F. Haslam, F.R C.S.
eo. Heaton, M.B. F.R.C.S.
A. Bostock Hill, M.D.
J. F. Jordan, M.B., F.R.C.S.

O. J. Kauffmann, M.D., M.R.C.P.
C. J. Lewis, M.D.
Jordan Lloyd, M.B., F.R.C.S.
Albert Lucas, F.R.C.S.
C. A. MacMunn, M.D.
H. Manley, M.B.
Frank Marsh, F.R.C.S.
Christopher Martin, M.B., F.R.C.S.
Bennett May, M.B., F.R.C.S.
J. T. J. Morrison, M.B., F.R.C.S.
E. N. Nason, M.B.
Lloyd Owen, F.R.C.S.I.
J. Pietersen, L.R.C.P., M.R.C.S.
C. E. Purslow, M.D., M.R.C.P.
Guthrie Rankin, M.D., F.R.C.P.

J. R. Ratcliffe, M.B.
Edwin Rickards, M.B., F.R.C.P.
Robt. Saundby, M.D., LL D., F.R.C.P
T. Sydney Short, M.D., M.R.C.P.
Robert M. Simon, M.D., F.R.C.P.
J. Lionel Stretton, L.R.C.P., M.R.C.S.
C. W. Suckling, M.D., M.R.C.P.
John W. Taylor, F.R.C.S.
Wm. Thomas, M.B., F.R.C.S.
Thos. W. Thursfield, M.D., F.R.C.P.
T. Law Webb, L.R.C.P., M.R.C.S.
E. Wood White, M.D.
T. Stacey Wilson, M.D., M.R.C.P
Thos. Wilson, M.D., F.R.C.S.
Wright Wilson, F.R.C.S., Ed.

CONTENTS:

Original Communications.

The Diagnosis and Treatment of Acute Gastralgia, with Notes of four recent Cases. By T. SYDNEY SHORT, M.D., M.R.C.P. ... 193

The Clinical Aspect of Diphtheria. By F. R. GREENWOOD, M.D. ... 202

The Treatment of Whooping-Cough. By J. E. GODSON, M.R.C.S., L.R.C.P. ... 219

Medical Abstracts.

Report on Renal and Urinary Diseases. By PROF. ROBERT SAUNDBY, M.D., LL D., F.R.C.P. ... 223

Reports of Societies.

British Medical Association. Birmingham and Midland Counties Branch ... 235
Midland Medical Society ... 243

Reviews of Books.

Hovell's Diseases of the Ear and Naso-Pharynx ... 245
Herman's Difficult Labour ... 248
Jackson's Diseases of the Eye ... 251
Modern Surgery ... 253
Schaeffer's Atlas and Epitome of Gynecology ... 254
Gardner on the Asphyxial Factor in Anæsthesia and other Essays ... 255

New Books, etc., Received ... 255

LONDON:
H. K. LEWIS, 136, GOWER STREET, W.C.
BIRMINGHAM:
HALL & ENGLISH, 36, UNION STREET.
Entered at Stationers' Hall.

SOUTHALLS' MILK STERILIZER.

(REGISTERED.)

Designed by and Manufactured under the direction of an eminent Bacteriologist.

It is claimed for this Apparatus that it is

SIMPLE IN WORKING *NO THERMOMETER REQUIRED.*

ABSOLUTELY EFFICIENT.

EASILY PORTABLE.

PHENOMENALLY CHEAP.

The production of **SOUTHALLS' MILK STERILIZER,** simple apparatus though it be, has been no light task, and the services of an eminent Bacteriologist were devoted to the work for a considerable period. The result is a **Simple but efficient** Sterilizing Apparatus, by which Milk may be rendered perfectly safe for the use of infants.

The use of the Sterilizer needs no special knowledge whatever, and the required temperature being produced by the amount of liquid fuel consumed, **no Thermometer is required.** The apparatus is complete in itself, requires no fires or saucepans, is readily portable, and cheap enough to place it within the reach of all classes.

OPINIONS of the PHARMACEUTICAL PRESS.

The "PHARMACEUTICAL JOURNAL," Dec. 29th, 1900, says:—

"Messrs. SOUTHALL BROS. & BARCLAY are making a Milk Sterilizer, which is *one of the simplest and most easily used* forms of sterilizing apparatus *yet produced,* at the same time it is *thoroughly efficient* in operation, and no special knowledge is needed to use it. No thermometer is required. since the required temperature is regulated by the amount of liquid fuel (spirit) consumed. The apparatus is complete in itself. requires no fire or saucepans. is readily portable, and cheap enough to place it *in the reach of all classes.*"

The "CHEMIST AND DRUGGIST," Dec. 29th, 1900, says:—

"The effective sterilization of milk having become an everyday necessity in the majority of households, the new Sterilizer introduced by Messrs. SOUTHALL BROS. & BARCLAY Ltd. is opportune. . . . Its use *needs no special knowledge* on the part of its owner, nor does it require to be regulated by a thermometer. It is capable of sterilizing a larger quantity than usual, the bottle holding a pint of milk."

The "BRITISH AND COLONIAL DRUGGIST," Dec. 28th, 1900, says:—

"Messrs. SOUTHALL BROS. & BARCLAY Ltd., have recently put on the market an admirable Milk Sterilizer. It is the practical outcome of the late Sir Richard Thorne's second Harben Lecture on Tuberculosis. . . . . Sterilization is completed in fifty or sixty minutes. . . . . *It cannot fail to find favour on all hands.*"

Full instructions for use are provided with each Sterilizer.

Price 6/6 each.

T. & W. & W. SOUTHALL,

17, Bull Street, BIRMINGHAM.

TRADE MARK **‘Tabloid’** BRAND

Hypodermic Products.

Drugs for hypodermic injections must be pure, reliable, of the utmost nicety of dose, and ready for immediate use. ‘Tabloid’ Hypodermic Products possess all these qualities and none of the disadvantages of ready-made solutions, which may be unreliable as to strength, or septic and irritating. They keep unaltered for many years in any climate and are instantly soluble in the barrel of the syringe. . . .

The B. W. & Co. Patent Hypodermic Syringe is specially constructed in view of its employment with ‘Tabloid’ Hypodermic Products.

For full particulars and list see *Wellcome’s Medical Diary.*

Burroughs Wellcome & Co., LONDON and SYDNEY.

[COPYRIGHT] F III

BULLOCK'S PEPSINA PORCI.

DOSE—2 to 4 grains.

ACID GLYCERINE OF PEPSINE (BULLOCK).

DOSE—1 to 2 drms.

In this preparation advantage has been taken of the solubility of Pepsine in Glycerine to produce a convenient and desirable *liquid form* of this valuable medicine; whilst the preservative qualities of the menstruum confer upon the Acid Glycerine of Pepsine the property of keeping for any length of time.

May be prescribed with most substances compatible with acids.
In 4 oz., 8 oz., and 16 oz. Bottles, and in bulk.

The published experiments of G. F. DOWDESWELL, Esq., M.A., Cantab., F.C.S. F.L.S., &c.; Dr. PAVY. Professor TUSON, the late Professor GARROD, Dr. ARNOLD LEES, and others. conclusively demonstrate the excellence, high digestive power and medicinal value of the above preparations.

⁂ *In prescribing the above Preparations it is suggested to insert in parenthesis as follows:—(BULLOCK).*

J. L. BULLOCK & CO.,
3, HANOVER STREET, HANOVER SQUARE, LONDON, W.

THE MOAT HOUSE, TAMWORTH, STAFFORDSHIRE.

STATIONS L. & N. WEST. and MID. RAILWAYS

A HOME FOR NERVOUS AND MENTAL CASES.

The House stands in grounds of ten acres (within 5 minutes' drive of either station), and is devoted to the care and treatment of a few Ladies suffering from nervous and mental disorders, who enjoy the comforts, privacy and occupations of home life. Voluntary patients are received without certificates.

For terms, etc., apply to the Resident Proprietor E. HOLLINS, M.A., Camb., J.P.

TRADE MARK **'Tabloid'** BRAND

Hypodermic Products.

Drugs for hypodermic injections must be pure, reliable, of the utmost nicety of dose, and ready for immediate use. 'Tabloid' Hypodermic Products possess all these qualities and none of the disadvantages of ready - made solutions, which may be unreliable as to strength, or septic and irritating. They keep unaltered for many years in any climate and are instantly soluble in the barrel of the syringe. . . .

The B. W. & Co. Patent Hypodermic Syringe is specially constructed in view of its employment with 'Tabloid' Hypodermic Products.

For full particulars and list see *Wellcome's Medical Diary.*

Burroughs Wellcome & Co., LONDON and SYDNEY.

[COPYRIGHT] F III

BULLOCK'S PEPSINA PORCI.

DOSE—2 to 4 grains.

ACID GLYCERINE OF PEPSINE

(BULLOCK).

DOSE—1 to 2 drms.

In this preparation advantage has been taken of the solubility of Pepsine in Glycerine to produce a convenient and desirable *liquid form* of this valuable medicine; whilst the preservative qualities of the menstruum confer upon the Acid Glycerine of Pepsine the property of keeping for any length of time.

May be prescribed with most substances compatible with acids.
In 4 oz., 8 oz., and 16 oz. Bottles, and in bulk.

The published experiments of G. F. DOWDESWELL, Esq., M.A., Cantab., F.C.S. F.L.S., &c.; Dr. PAVY, Professor TUSON, the late Professor GARROD, Dr. ARNOLD LEES, and others, conclusively demonstrate the excellence, high digestive power and medicinal value of the above preparations.

⁂ *In prescribing the above Preparations it is suggested to insert in parentheses as follows:—(BULLOCK).*

J. L. BULLOCK & CO.,
3, HANOVER STREET, HANOVER SQUARE, LONDON, W.

THE MOAT HOUSE, TAMWORTH, STAFFORDSHIRE.

STATIONS L. & N. WEST. and MID. RAILWAYS

A HOME FOR NERVOUS AND MENTAL CASES.

The House stands i grounds of ten acres (withi 5 minutes' drive of eithe station), and is devoted to th care and treatment of a fe Ladies suffering from nervou and mental disorders, wh enjoy the comforts, privac and occupations of home lif Voluntary patients are received without certificates.

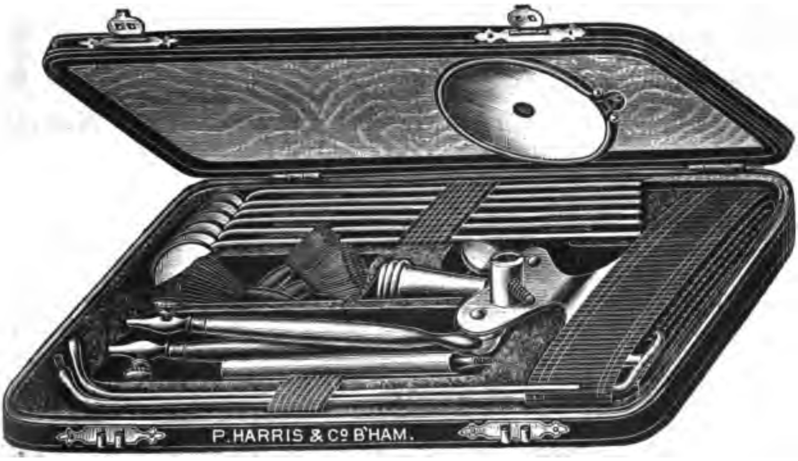
For terms, etc., apply to the Resident Proprietor E. HOLLINS, M.A., Camb., J.P.

PHILIP HARRIS & CO. Ltd.,

LARYNGOSCOPE,

30/- complete,

consisting of large Head Mirror with patent arrangement for replacing mirror in case of breakage, Head Band, etc.; 6 Mirrors, 2 Handles, Probe, 3 Brushes, complete in case.


P. HARRIS & Cº B'HAM.

30/- complete.

Surgical Appliance Makers,

144 & 146, EDMUND STREET,

BIRMINGHAM.

Telephone No. 10. **Telegraphic Address: "Science," Birmingham**

"THE predominance of Magnesium Sulphate and the presence "of Lithium in **APENTA WATER** having been recently pointed "out by **Professor Pouchet,** I determined to ascertain for myself "the properties of this water, and for this purpose I prescribed "it for a large number of my patients.

"My observations have proved that **APENTA WATER** is "an **excellent, very active purgative,** and of **strictly constant** "**composition.** Its action is **mild** and **reliable,** and a wineglassful "or half a glass **acts** as an **aperient without producing either** "**griping or discomfort.** It is the Water **specially suited** for "the **treatment** of **habitual constipation.** Moreover, by its "special and constant composition this Water **appears to me to** "**merit a place by itself in the therapeutics of Mineral** "**Waters.**"

"PARIS, 4th February, 1899.

DR. LANCEREAUX,
Professeur à la Faculté de Médecine, Paris;
Médecin honoraire des Hôpitaux;
Membre de l'Académie de Médecine.

"APENTA"

THE BEST NATURAL APERIENT WATER.

SOLE IMPORTERS:

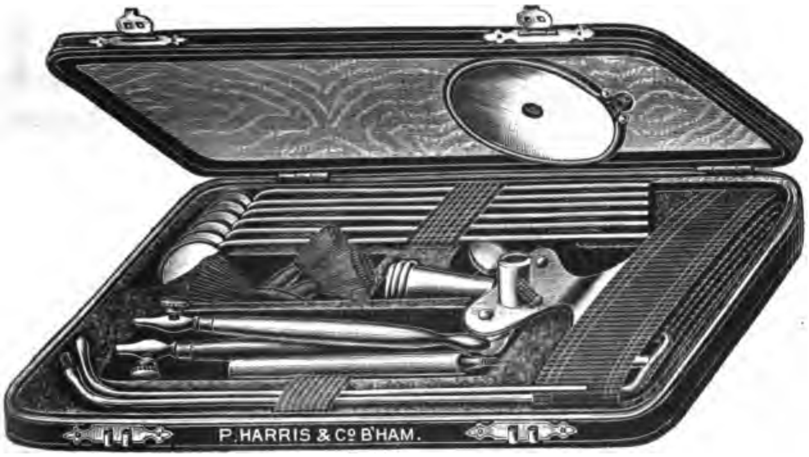
THE APOLLINARIS COMPANY, LIMITED, LONDON.

PHILIP HARRIS & CO. Ltd.,

LARYNGOSCOPE,

30/- complete,

consisting of large Head Mirror with patent arrangement for replacing mirror in case of breakage, Head Band, etc.; 6 Mirrors, 2 Handles, Probe, 3 Brushes, complete in case.



30/- complete.

Surgical Appliance Makers,

144 & 146, EDMUND STREET,

BIRMINGHAM.

Telephone No. 10, **Telegraphic Address: "Science," Birmingham.**

"THE predominance of Magnesium Sulphate and **the presence** of Lithium in **APENTA WATER having been recently pointed** out by **Professor Pouchet,** I determined to ascertain **for myself** the properties of this water, and for this purpose I **prescribed** it for a large number of my patients.

"My observations have proved that **APENTA WATER** is an **excellent, very active purgative,** and of **strictly constant composition.** Its action is **mild** and **reliable,** and a wineglassful or half a glass **acts** as an **aperient without producing either griping or discomfort.** It is the Water **specially suited** for the **treatment** of **habitual constipation.** Moreover, by its special and constant composition this Water **appears to me to merit a place by itself in the therapeutics of Mineral Waters."**

"PARIS, 4th February, 1899.

DR. LANCEREAUX,
Professeur à la Faculté de Médecine, Paris;
Médecin honoraire des Hôpitaux;
Membre de l'Académie de Médecine.

"APENTA"

THE BEST NATURAL APERIENT WATER.

SOLE IMPORTERS:

THE APOLLINARIS COMPANY, LIMITED, LONDON.

MILKMAID

BRAND

Milk

Largest Sale in the World.

See that the MILKMAID Trade Mark is on every Tin.

The Anglo-Swiss Condensed Milk Co. are the **largest manufacturers** of Condensed Milk in the world, having **ten Factories** and condensing **daily** the milk of **50,000 Cows.** Their **"Milkmaid" Brand** is the **original** Condensed Milk introduced into England thirty years ago.

The **English "Milkmaid" Brand** ot Condensed Milk was selected by Dr. NANSEN for the use of himself and his companions on their famous expedition, and **more than two and a half tons** ot the milk were included in the stores of the "Fram."

When recommending Condensed Milk to your patients, please be careful to specify the **"Milkmaid" Brand,** which is guaranteed to contain all the cream of the original milk.

Samples free to the Profession.

Anglo-Swiss Condensed Milk Co., 10, Mark Lane, London, E.C.

“THE LANCET” on

VAN HOUTEN’S COCOA.

“In a recent analysis
“ which we have made, the results
“ distinctly indicate the advantage of
“ VAN HOUTEN’S PROCESS of manu-
“ facture. Thus *this* Cocoa yields
“ a decoction containing a maximum
“ proportion of the valuable food
“ constituents of the bean, and what
“ is of *more importance still,* these
“ are presented in a condition more
“ easy of assimilation and digestion
“ than in Cocoa not so prepared.”

TELEPHONE No. 3511.

ENGLISH AND FOREIGN PHARMACY,

FIVE WAYS, EDGBASTON, BIRMINGHAM.

T. CHASE,

PHARMACEUTICAL CHEMIST.

The strictest accuracy and attention given to the Dispensing of Medicines. Drugs, Chemicals, and Pharmaceutical Preparations of the highest quality. Foreign Prescriptions are dispensed in strict accordance with the Pharmacopœias of their respective countries. As new Chemicals and Pharmaceutical Preparations are introduced, they will be added to the stock.

Technical Analyses of all kinds conducted.

Every Description of Aerated and Mineral Waters.

Gold Medals, Paris, 1878: 1889.

JOSEPH GILLOTT'S

Of Highest Quality, and Having Greatest Durability are Therefore CHEAPEST.

PENS

Where **Pain** is a prominent symptom. **AK** is a desideratum: its province is relief of Pain in every and any form. Best of all, there is no danger of Morphinism, no Nausea, no Malaise so common with opium.

Will not Depress the Heart.

NO DRUG HABIT INDUCED — NO TOXIC EFFECT.

Antikamnia

OPPOSED TO PAIN.

Analgesic. Antipyretic. Anodyne.

WINTER COUGHS.

In acute attack of laryngeal or winter cough, tickling and irritability of larynx, **Antikamnia & Codeine Tablets** are excedingly trustworthy. If the irritation or spasm prevails at night, the patient should take a 5-gr. tablet containing 4¾-gr. Antikamnia, and ¼-gr. Sulphate Codeine, an hour before retiring and repeat hourly until the irritation is allayed.

Antikamnia (finely powdered).
Antikamnia Tablets (Five Grains each).
Antikamnia Laxative Tablets.
Antikamnia & Codeine Tablets.
Antikamnia & Salol Tablets.
Antikamnia & Quinine Tablets.
Antikamnia & Quin. Laxative Tablets.
Antikamnia Quin. & Salol Tablets.

Marketed in one ounce packages only, price for dispensing purposes, 3/10 post free,
NEVER IN BULK. ALL TABLETS MONOGRAMMED.

THE ANTIKAMNIA CHEMICAL CO.,
46, Holborn Viaduct, E.C

A New Food for Diabetes.

Highly Recommended and Prescribed by the Medical Pofession.

Cheltine

DIABETIC FOOD

FOOD AND BISCUITS.

These Diabetic **Preparations** are the MOST PALATABLE, GIVE REAL NOURISHMENT, ARREST TISSUE WASTE, **and** are EASILY DIGESTED.

These Foods are not made from gluten or Almonds, but are Medicated Foods, in which the Carbohydrates are so altered that in the process of digestion they will not yield Diabetic Sugar. Write for Samples and Particulars.

CHELTINE DIABETIC FOOD

We are also Sole Manufacturers of "Cheltine" Anæmic Food, Dyspeptic Food, Invalids' Food and Infants' Food.

WORTH'S FOODS SYNDICATE LTD., CHELTENHAM.

J. F. THORNEYWORK,

MANUFACTURER OF

Artificial Limbs, Trusses, Surgical Instruments,

ELASTIC STOCKINGS, KNEE CAPS, ABDOMINAL BELTS, &c.

33, JOHN BRIGHT STREET, BIRMINGHAM.

☞ Instrument Maker to the Birmingham Orthopædic Hospital. for the Cure of Bodily Deformities. Newhall Street; General and Queen's Hospitals; Dudley Dispensary; Stafford Infirmary; Cottage Hospital, Walsall; and Guest Hospital, Dudley.

DOWN BROS.'

Surgical Instruments
and Aseptic Hospital Furniture,

AWARDED

THE GRAND PRIX,

(HIGHEST POSSIBLE AWARD)

PARIS EXHIBITION, 1900.

Twentieth Century Edition new Illustrated Catalogue, 1200 pages now ready, issued to members of the Medical Profession on application.

DOWN BROS.,

Surgical Instrument Manufacturers,

21, St. THOMAS'S STREET (OPPOSITE GUY'S HOSPITAL),

LONDON, S.E.

FACTORY—King's Head Yard, Borough. Telegraphic Address: "Down—London.

Telephone, 965 "Hop."

NESTLÉ'S

CONDENSED SWISS MILK.

The Richest in Cream.

……

PERCENTAGE of BUTTER FAT.

Six Samples of **NESTLÉ'S MILK** bought at random at Six different Shops, and analysed by **Mr. OTTO HEHNER,** late President of the Society of Public Analysts, contained

AN AVERAGE OF

13·13 PER CENT. OF BUTTER FAT.

Sample Tin sent free to the Medical Profession on application to
HENRI NESTLÉ, 48, CANNON STREET, LONDON, E.C.

⁂ Messrs. NESTLÉ having obtained the GRAND PRIZE at the PARIS EXHIBITION in 1889, and being selected on the Grand Jury for the late Exhibition were debarred from entering their Goods for Competition.

ASHWOOD HOUSE, KINGSWINFORD

A PRIVATE ASYLUM FOR LADIES AND GENTLEMEN.

Proprietors:

HENRY GEORGE PEACOCK. L.R.C.P. ED.. M.R.C.S. ENG., L.S.A. LOND..

Formerly Resident Medical Officer in charge of the Dorset County Asylum. Forston. and

JAMES F. G. PIETERSEN, L.R.C.P., LOND.; M.R.C.S., ENG.;

(*Late Senior Medical Officer, Camberwell House Asylum, London,*)

Late Bodington and Peacock, Co-Licensees.

ASHWOOD HOUSE is a large Mansion in the County of Stafford. close upon the borders of Worcestershire. It is very substantially built, and is situated upon an elevated spot, commanding extensive views. The Rooms are large, lofty, and cheerful, and the house, both inside and outside, has entirely the air and character of a gentleman's private residence. The soil is sand and gravel, has excellent natural drainage, and is very dry. The gardens and grounds, about forty acres in extent, are well planted with shrubs and ornamental timber, and are extremely picturesque. The climate is genial, and the locality notoriously healthy. The country around is secluded and quiet, and affords a great variety of beautiful walks and drives amidst very charming scenery.

The Patients associate with the family, and have every possible freedom allowed them consistent with safety.

Carriage exercise is provided for those Patients whose friends desire it. Suites of Private Apartments and Special Attendants may be engaged if desired.

There is a Billiard Room, and a very fine Tennis Lawn, together with a variety of other means of recreation and amusement. Books, Magazines, and Periodicals are provided.

Divine Service, conducted by the Vicar of Kingswinford, is held in the House every Sunday Afternoon.

This Asylum was formerly carried on at DRIFFOLD HOUSE, SUTTON COLDFIELD, where, for thirty-six years, it was in the hands of DR. BODINGTON and his father. The establishment, owing to the expiration of the lease of the premises, was removed to ASHWOOD HOUSE, in the year 1872.

STOURBRIDGE is the nearest Railway Station.

Postal Address:—

ASHWOOD HOUSE,
KINGSWINFORD, NEAR DUDLEY.

NEARLY READY. PRICE 7/6 NET, Post Free. Subscribers have priority in delivery.

NINETEENTH YEAR, 8vo, Cloth, about 900 pages.

Copiously Illustrated and with many Full-page Plates, some of which are finely Coloured.

THE MEDICAL ANNUAL, 1901,

And Year Book of Treatment. A Complete Work of Reference for Practitioners, alphabetically arranged, combining an Annual Retrospect, with a Medical Encylopædia.

CONTRIBUTORS AND CONTRIBUTIONS.

Robt. Abbe. M.D. New York.
A. L. Fisk, M.D., NewYork. *Brain & Spinal Surgery.*
Herbert W. Allingham. F.R.C.S. *Rectal Surgery*
Prof E. A. Ayers. A M., M.D., N. York *Obstetrics.*
J. Cantlie, M.A. M.B., F R.C.S. *Tropical Diseases.*
Prof. Alfred H. Carter, M.D., F.R.C.P., Birmingham. *Heart Diseases*
Prof. Hy. Dwight Chapin, M.A., M D., New York. *Pediatrics.*
J. E. Cooney. L.R.C.P., D P H., Camb, of the Middle Temple, Barrister-at-Law. *Medico-Legal Decisions.*
F. Richardson Cross, M.B., F.R.C.S., Bristol. *Ophthalmology.*
F. W. Edridge-Green, M.D., late Member Internat. Code of Signals Com. *Colour Blindness, &c.*
E. Hurry Fenwick, F.R C.S. *Urinary Surgery.*
T. Colcott Fox. B.A., F R C P. *Skin Diseases.*
H. Bellamy Gardner, M.R.C.S., L R.C P. *Anæsthesia.*
Arthur E. Giles. B Sc., M.D., F.R.C.S. *Gynæcology.*
Edward W. Goodall. M D. *Fevers.*
J. Dundas Grant. M.A., M.D., F.R C.S. *Ear Diseases.*
Prof. Græme M. Hammond, A M. M.D., New York. *Neurology.*
Robt. Jones. F R C.S., Liverpool.
A. H. Tubby, M S. M B *Orthopædics*
Priestley Leech, M.D, F R.C S. Halifax. *General Surgery.*
Prof. Hy. P. Loomis, M D., New York. *Pulmonary Diseases*
Prof Jos M'Farland. M.D., Philadelphia *Toxins and Anti-Toxins.*
J. Macintyre, M B., C.M., Glasgow. *X-Ray Work.*
Chas F. Marshall, M.D., F.R C S. *Syphilis.*
W. Milligan, M.D. Manchester. *Nose and Throat.*
Keith W Monsarrat. F.R C S., Liverpool. *Cancer.*
Wm. Murrell, M.D, F.R.C.P *Therapeutics.*
Joseph Priestley. B.A., M D., D.P H. *Sanitary Science.*
Boardman Reed. M.D., Philadelphia *Stomach Disorders.*
Prof. C. Ruata. Perugia. Italy. *Pulmonary Tuberculosis.*
Prof. Robt. Saundby. M.D. F R C P E., LL.D., Birmingham. *Renal and Urinary Diseases.*
Jas Shaw. M.D., Liverpool. *Insanity.*
Walter G. Spencer. M.S., F.R.C.S. *Abdominal Surgery.*
Jos. Geo. Turner, F.R C.S. L.D.S. *Dental and Oral Surgery.*

PRESS OPINIONS

"Of especial benefit to those in general practice—gives the most recent information—will often provide a suggestion for treatment at the moment it is needed."—*Lancet.*

"Have been surprised to learn how wide was its scope, and how exhaustive its contents. Have come to place very great reliance upon it."—*New York Med. Journ.*

"of great utility to the practitioner—a trustworthy work of reference,"—*Brit. Med. Journ.*

"The strong point is its markedly practical character."—*Intern.Med.Mag.*

"Nothing but praise can be awarded."—*Clin. Journ.*

"In every way a valuable book."—*Bristol Med. Journ.*

"No practitioner can read it without being amply repaid—helpful suggestions on every page."—*American Lancet.*

"A pleasure to recommend it."—*Johns Hopkins Hosp. Bull.*

"Were a practitioner so situated that he could buy but one volume in the year this should be the one."—*Chicago Clin. Rev.*

"Improves in its usefulness every year."—*Annals of Surg.*

"Gives just the essential statement with sufficient fulness for the practitioner's guidance."—*Med. Press & Circ.*

"Most acceptable to the busy doctor. Full from cover to cover of the most recent information, epitomised in such a manner as to be perused in a short time."—*Canadian Journ. of Med. and Surg.*

BRISTOL: JOHN WRIGHT & CO. LONDON: SIMPKIN & CO. LTD.

H. K. LEWIS'S NEW EDITIONS.

HANDBOOK OF DISEASES OF THE EYE & THEIR TREATMENT. By HENRY R. SWANZY, A.M., M.B., F.R.C.S.I., Surgeon to the National Eye and Ear Infirmary, and Ophthalmic Surgeon to the Adelaide Hospital, Dublin. SEVENTH EDITION, with 164 Illustrations, post 8vo, **12s. 6d.**

"An excellent treatise for the student and practitioner."—*The Lancet.*

MEDICAL ELECTRICITY, A Practical Handbook for Students and Practitioners By H. LEWIS JONES, M A., M D., F.R.C.P., Medical Officer in charge of the Electrical Department in St. Bartholomew's Hospital. THIRD EDITION, thoroughly Revised, with 117 Illustrations, crown 8vo **10s. 6d.**

"We welcome the second edition of this excellent manual. . . . For its size and general scope it is certainly the best text-book with which we are acquainted."—*British Medical Journal.*

THE STUDENT'S MEDICAL DICTIONARY. Including all the Words and Phrases generally used in Medicine, with their proper Pronunciation and Definitions, based on recent Medical literature; with elaborate Tables of the Bacilli, Micrococci, Leucomains, Ptomains, &c., of the Arteries, Ganglia, Muscles, and Nerves; of Weights and Measures.: and a New Table of Eponymic Terms and Tests. By GEORGE M. GOULD, A.M., M.D. ELEVENTH EDITION, Revised and Enlarged, with many Illustrations, 8vo, **14s.** net.

BY THE SAME AUTHOR.

A POCKET MEDICAL DICTIONARY giving the Pronunciation and Definition of the Principal Words used in Medicine and the Collateral Sciences, including very complete Tables of Clinical Eponymic Terms, of the Arteries, Muscles, Nerves, Bacteria, Bacilli, Micrococci, Spirilla, Thermometric Scales, and a Dose List of Drugs and their Preparations in both the English and Metric Systems of Weights and Measures. FOURTH EDITION, **containing 30,000 Medical Words, Pronounced and Defined,** bound limp, gilt edges, **5s.** net.

ANÆSTHETICS; their Uses and Administration. By DUDLEY W. BUXTON, M.D., B.S., M.R.C.P., Administrator of Anæsthetics and Lecturer in University College Hospital: Consulting Anæsthetist to the National Hospital for Paralysis and Epilepsy, Queen's Square, etc. THIRD EDITION, thoroughly revised and much enlarged, with 50 Illustrations, crown 8vo, **6s.** [*Lewis's Practical Series.*

A MANUAL OF GYNÆCOLOGICAL PRACTICE FOR STUDENTS and Practitioners. By Dr. A. DÜHRSSEN, Professor in Midwifery and Gynæcology in the University of Berlin. Translated and Edited from the SIXTH GERMAN EDITION by JOHN W. TAYLOR, F.R.C.S., Professor of Gynæcology, Mason College, Birmingham, etc., and FREDERICK EDGE, M.D., Lond., M.R C.P., F.R.C.S., Surgeon to the Wolverhampton and District Hospital for Women. SECOND ENGLISH EDITION, Enlarged, with 125 Illustrations, crown 8vo, **6s.**

⁂ This Edition has been prefaced by an Anatomical Introduction which, while avoiding unnecessary detail, deals very fully with the main facts, which are of importance and interest to the student.

WHAT TO DO IN CASES OF POISONING. BY WILLIAM MURRELL, M.D., F.R C.P., Physician to, and Lecturer on Clinical Medicine and Joint-Lecturer on The Principles and Practice of Medicine at, the Westminster Hospital, &c. NINTH EDITION, royal 32mo, **3s. 6d.**

"An excellent and useful little book."—*The Lancet.*

⁂ Complete Catalogue of Mr. Lewis's Publications post free on application.

London: H. K. LEWIS, 136, Gower Street, W.C

Scottish Provident Institution.

Table of Premiums by Life and Limited Payment,

For Assurance of £1000 at Death-with Profits.

Age next Birthday.	Annual Premium payable during Life.	ANNUAL PREMIUM LIMITED TO			Age next Birthday.
		25 Payments.	20 Payments.	15 Payments.	
21	£18 2 6	£24 8 4	£27 13 4	£33 5 10	21
22	18 7 6	24 12 6	27 17 6	33 11 8	22
23	18 11 8	24 15 10	28 1 8	33 15 10	23
24	18 15 10	24 19 2	28 5 0	34 0 0	24
25	19 0 0	25 1 8	28 8 4	34 4 2	25
26	19 5 0	25 5 0	28 12 6	34 9 2	26
27	19 11 8	25 10 0	28 18 4	34 15 10	27
28	19 19 2	25 15 10	29 4 2	35 3 4	28
29	20 6 8	26 2 6	29 11 8	35 11 8	29
30	20 15 0	26 10 0	29 19 2	36 0 10	30
31	21 5 0	26 17 6	30 7 6	36 10 10	31
32	21 14 2	27 6 8	30 17 6	37 1 8	32
33	22 5 0	27 15 10	31 7 6	37 14 2	33
34	22 15 10	28 6 8	31 18 4	38 6 8	34
35	23 8 4	28 17 6	32 10 0	39 0 0	35
36	24 1 8	29 10 0	33 2 6	39 15 0	36
37	24 16 8	30 2 6	33 15 10	40 10 0	37
38	25 12 6	30 15 10	34 9 2	41 4 2	38
39	26 9 2	31 10 0	35 4 2	42 0 0	39
40	27 7 6	32 5 0	35 19 2	42 16 8	40
41	28 6 8	33 0 10	36 15 10	43 15 0	41
42	29 6 8	33 18 4	37 13 4	44 14 2	42
43	30 9 2	34 16 8	38 12 6	45 15 0	43
44	31 12 6	35 17 6	39 13 4	46 16 8	44
45	32 17 6	37 0 0	40 15 10	48 1 8	45
46	34 4 2	38 5 0	42 0 10	49 7 6	46
47	35 14 2	39 11 8	43 7 6	50 16 8	47
48	37 6 8	41 0 10	44 17 6	52 8 4	48
49	39 0 10	42 12 6	46 9 2	54 1 8	49
50	40 15 10	44 5 10	48 2 6	55 16 8	50

The non-profit rates of other Offices differ little from these Premiums, so that persons who assure with them throw away the prospect of additions from the profits without any compensating advantages.

PAID-UP POLICIES.

Under all Limited Payment and Endowment Tables the Assured, on discontinuing payments, may obtain a paid-up policy for such proportion of the sum originally assured as the number of premiums paid bears to the number payable.

GUARANTEE INVESTMENT.

Particulars may be had on application of a SCHEME under which there is *guaranteed* an INCOME DURING LIFE equivalent in many cases to about 3 per cent. per annum on amount invested, along with a PAID-UP POLICY OF ASSURANCE to return at death the amount of the Capital, with such profits as may be added.

Annuities and Endowments on favourable terms. Rates and Proposal Forms on application to

BIRMINGHAM OFFICE:—95, COLMORE ROW.

Advertisement continued on back of Cover.

MUTUAL ASSURANCE WITH MODERATE PREMIUMS.

Scottish Provident Institution.

BIRMINGHAM OFFICE—95. COLMORE ROW.

ECONOMY—EQUITY—SECURITY.

THIS SOCIETY differs in its principles from other Offices. Its terms are specially adapted to the requirements of Medical Men and others whose Income is dependent on continuance of health.

INSTEAD of charging rates higher than are necessary, and afterwards returning the excess in the shape of periodical Bonuses, it gives from the first as large an Assurance as the Premiums will with safety bear, reserving the *whole Surplus for those Members who survive the period at which their premiums, with compound interest at 4 per cent. amount to the sums assured*—no share being given to those by whose earlier death there is actual *loss* to the Common Fund.

The WHOLE PROFITS go to the Policyholders, on the above system which is at once safe, equitable, and favourable to good lives. The SEVENTH SEPTENNIAL INVESTIGATION showed a SURPLUS of £1,423.018 which. after reserving £391,796 for future division, was divided among 13,220 Policies entitled. The first Bonuses ranged from 15 and 18 to upwards of 30 per cent. on Sums Assured.

The next Division of Profits will be made at 31st December, 1901,

FUNDS OVER £11,500,000.

The PREMIUMS are so moderate that at most ages an assurance of £1200 or £1250 may be secured from the first for the same yearly payment which would generally elsewhere assure (with profits) £1000 only,—the difference being equivalent to an immediate and certain "Bonus" of 20 to 25 per cent.

Annual Premiums for £100 at Death (with Profits).

AGE NEXT BIRTHDAY ...	25			*30			35			40			45			50		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Payable during Life	1	18	0	2	1	6	2	6	10	2	14	9	3	5	9	4	1	7
Limited to 25 Payments ...	2	10	2	2	13	0	2	17	9	3	4	6	3	14	0	4	8	7

* Thus a person of 30 may secure £1,000 at death by a yearly payment, *during life*, of £20. 15s. This Premium, in any other of the Scottish Mutual Offices, would secure **£800** only, instead of **£1,000.** The without profit rates of other Offices *differ little from these*, so that Assurers with them virtually *throw away the prospect of additions without any compensating advantage*.

Or, if unwilling to burden himself with payments during whole life, he may secure the same £1,000 by *twenty-five* yearly payments of £26. 10s.—*being thus relieved from payment at a comparatively early age.*

ENDOWMENT ASSURANCES with guaranteed rates of bonus are now issued on very favourable terms, and will be found specially suitable to those requiring the use of the sum assured during advanced age.

Reports, with full information, and Proposal Forms may be had on application to the Midland Branch,
95, Colmore Row, Birmingham GEO. A. PANTON, *Res. Secretary.*

See also inside cover,

A. E.-

ol. XLIX., No. 273. MAY, 1901. Price Sixpence.

THE
Birmingham Medical Review:

A MONTHLY JOURNAL OF THE MEDICAL SCIENCES.

64 pp. Price 6/- per annum, post free.

BOSTON MEDICAL LIBRARY
MAR 26 1902

EDITED BY

DOUGLAS STANLEY, M.D. EDIN., M.R.C.P.

AND

JAS. W. RUSSELL, M.D. CANTAB., M.R.C P.

Assisted by the following Editorial Committee:—

ERT BARLING, M.B., F.R.C.S.
ANGLEY BROWNE, F.R.C.S.
M. CHAPMAN, M.D., F.R.C.P.
HARNLEY, M.D.
AZELWOOD CLAYTON, M.B.
OLLIER, M.D. F.R.C.P.
BY EALES, M.R.C.S.
EDGE, M.D., F R.C.S., M.R.C.P.
UR FOXWELL, M D., F.R.C.P.
. FOXCROFT, M D.
ARD GAMGEE, F R.C.S.
HAIG, M.D.
HASLAM, F.R C.S.
HEATON, M.B. F.R.C.S.
STOCK HILL, M.D.
JORDAN, M.B., F.R.C.S.

O. J. KAUFFMANN, M.D., M.R.C.P.
C. J. LEWIS, M.D.
JORDAN LLOYD, M.B., F.R.C.S.
ALBERT LUCAS, F.R.C.S.
C. A. MACMUNN, M.D.
H. MANLEY, M.B.
FRANK MARSH, F.R.C.S.
CHRISTOPHER MARTIN, M.B., F.R.C.S.
BENNETT MAY, M.B., F.R.C.S.
J. T. J. MORRISON, M.B., F.R.C.S.
E. N. NASON, M.B.
LLOYD OWEN, F.R.C.S.I.
J. PIETERSEN, L.R.C.P., M.R.C.S.
C. E. PURSLOW, M.D., M.R.C.P.
GUTHRIE RANKIN, M.D., F.R.C.P.
J. R. RATCLIFFE, M.B.

EDWIN RICKARDS, M.B., F.R.C.P.
SIR JAMES SAWYER, M.D., F.R.C.P.
ROBT. SAUNDBY, M.D., LL.D., F.R.C.P.
T. SYDNEY SHORT, M.D., M.R.C.P.
ROBERT M. SIMON, M.D., F.R.C.P.
J. LIONEL STRETTON, L.R.C.P., M.R.C.S.
C. W. SUCKLING, M.D., M.R.C.P.
JOHN W. TAYLOR, F.R.C.S.
WM. THOMAS, M.B., F.R.C.S.
THOS. W. THURSFIELD, M.D., F.R.C.P.
T. LAW WEBB, L.R.C.P., M.R.C.S.
E. WOOD WHITE, M.D.
T. STACEY WILSON, M.D., M.R C.P
THOS. WILSON, M.D., F.R.C.S.
WRIGHT WILSON, F.R.C.S., Ed.

CONTENTS:

Original Communications.

rgical Interference in Disorders of the Stomach By GEORGE HEATON, M.A. M.B., F.R.C.S. 257
nguentum Ranunculi Ficariæ. By SIR JAMES SAWYER, M.D., F.R.C.P. ... 281
ncer of the Uterus. By J. FURNEAUX JORDAN. F.R.C.S. 284

Reports of Cases.

elayed Toxic Effects of Sulphonal. By E. A. SADLER, M.D. 298

Medical Abstracts.

phthalmology. By J. JAMESON EVANS, M.B., F.R.C.S. 300

Reports of Societies.

Midland Medical Society 308
Kidderminster Medical Society 310

Reviews of Books.

Da Costa's Modern Surgery, General and Operative 311
Howell's American Text-Book of Physiology 312
Duane's Dictionary of Medicine and the Allied Sciences 313
Greene on the Medical Examination for Life Insurance 314

The Consultative Institution 315
University of Birmingham 318
New Books, etc., Received 320

LONDON:
H. K. LEWIS, 136, GOWER STREET, W.C.
BIRMINGHAM:
HALL & ENGLISH, 36, UNION STREET.
Entered at Stationers' Hall.

SOUTHALLS' MILK STERILIZER.

(REGISTERED.)

Designed by and Manufactured under the direction of an eminent Bacteriologist.

It is claimed for this Apparatus that it is

SIMPLE IN WORKING *NO THERMOMETER REQUIRED.*
ABSOLUTELY EFFICIENT.
EASILY PORTABLE.
PHENOMENALLY CHEAP.

The production of **SOUTHALLS' MILK STERILIZER**, simple apparatus though it be, has been no light task, and the services of a eminent Bacteriologist were devoted to the work for a considerable perio The result is a **Simple but efficient** Sterilizing Apparatus, by which Mi may be rendered perfectly safe for the use of infants.

The use of the Sterilizer needs no special knowledge what **ever,** and the required temperature being produced by the amount of liquid fuel consumed, **no Thermometer is required.** The apparatus is complete in itself, requires no fires or saucepans, is readily portable, and cheap enoug to place it within the reach of all classes.

OPINIONS of the PHARMACEUTICAL PRESS.

The "PHARMACEUTICAL JOURNAL," Dec. 29th, 1900, says:—

"Messrs. SOUTHALL BROS. & BARCLAY are making a Milk Sterilizer. which is *one of simplest and most easily used* forms of sterilizing apparatus *yet produced*, at the same ti is *thoroughly efficient* in operation. and no special knowledge is needed to use it. No the meter is required. since the required temperature is regulated by the amount of liquid (spirit) consumed. The apparatus is complete in itself. requires no fire or saucepa readily portable, and cheap enough to place it *in the reach of all classes.*"

The "CHEMIST AND DRUGGIST," Dec. 29th, 1900, says:—

"The effective sterilization of milk having become an everyday necessity in the maj of households. the new Sterilizer introduced by Messrs. SOUTHALL BROS. & BARCLAY is opportune. . . . Its use *needs no special knowledge* on the part of its owner, nor it require to be regulated by a thermometer. It is capable of sterilizing a larger quan than usual, the bottle holding a pint of milk."

The "BRITISH AND COLONIAL DRUGGIST," Dec. 28th, 1900, says:—

"Messrs. SOUTHALL BROS. & BARCLAY Ltd., have recently put on the marke admirable Milk Sterilizer. It is the practical outcome of the late Sir Richard Th second Harben Lecture on Tuberculosis. . . . . Sterilization is completed in fifty or minutes. . . . . *It cannot fail to find favour on all hands.*"

Full instructions for use are provided with each Sterilizer.

Price 6/6 each.

T. & W. & W. SOUTHALL,

17, Bull Street, BIRMINGHAM.

A MOLECULAR INCORPORATION OF
THE FINEST NORWEGIAN COD LIVER
OIL IN 'KEPLER' MALT EXTRACT.

'Kepler' Solution

IS therefore an intimate association of two very valuable foods. Its palatability distinguishes it from all other preparations of cod liver oil, and this superiority is due to the fine quality of its ingredients and to the original method of preparation employed, and not to pungent, crude and artificial flavouring matters. 'Kepler' Solution is digested as easily as it is ingested.

Supplied in small and large bottles.

Burroughs Wellcome & Co.,
LONDON AND SYDNEY. . . . .

[COPYRIGHT] F 97

BULLOCK'S PEPSINA PORCI.

DOSE—2 to 4 grains.

ACID GLYCERINE OF PEPSINE

(BULLOCK).

DOSE—1 to 2 drms.

In this preparation advantage has been taken of the solubility of Pepsine in Glycerine to produce a convenient and desirable *liquid form* of this valuable medicine; whilst the preservative qualities of the menstruum confer upon the Acid Glycerine of Pepsine the property of keeping for any length of time.

May be prescribed with most substances compatible with acids.
In 4 oz., 8 oz., and 16 oz. Bottles, and in bulk.

The published experiments of G. F. DOWDESWELL, Esq., M.A., Cantab., F.C.S. F.L.S., &c.; Dr. PAVY, Professor TUSON, the late Professor GARROD, Dr. ARNOLD LEES, and others, conclusively demonstrate the excellence, high digestive power and medicinal value of the above preparations.

⁂ *In prescribing the above Preparations it is suggested to insert in parentheses as follows:—(BULLOCK).*

J. L. BULLOCK & CO.,
3, HANOVER STREET, HANOVER SQUARE, LONDON, W.

THE MOAT HOUSE, TAMWORTH, STAFFORDSHIRE.

STATIONS L. & N. WEST. and MID. RAILWAYS.

A HOME FOR NERVOUS AND MENTAL CASES.

The House stands in grounds of ten acres (within 5 minutes' drive of either station), and is devoted to the care and treatment of a few Ladies suffering from nervous and mental disorders, who enjoy the comforts, privacy and occupations of home life. Voluntary patients are received without certificates.

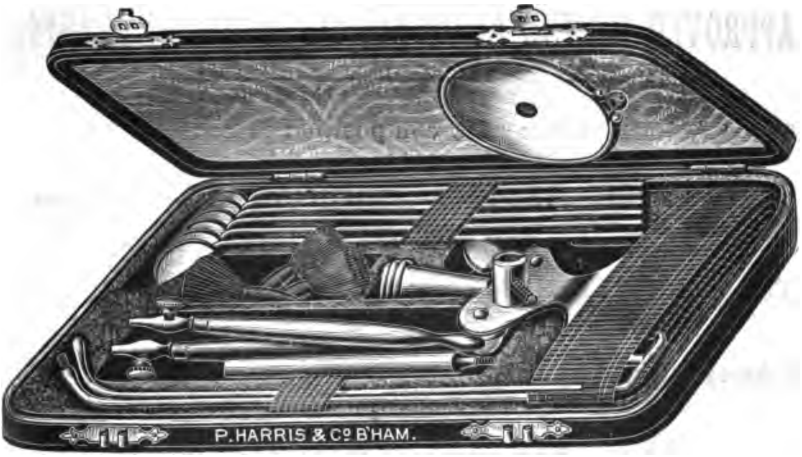
For terms, etc., apply to the Resident Proprietor E. HOLLINS, M.A., Camb., J.P.

PHILIP HARRIS & CO. Ltd.,

LARYNGOSCOPE,

30/- complete,

consisting of large Head Mirror with patent arrangement for replacing mirror in case of breakage, Head Band, etc.; 6 Mirrors, 2 Handles, Probe, 3 Brushes, complete in case.


P. HARRIS & Co B'HAM.

30/- complete.

Surgical Appliance Makers,

144 & 146, EDMUND STREET,

BIRMINGHAM.

Telephone No. 10. **Telegraphic Address: "Science," Birmingham.**

"APENTA"

Natural Hungarian Aperient Water.

Bottled at the Springs, Budapest. Hungary.

These Springs and their exploitation are under the scientific supervision of Professor Dr. Joseph de Fodor, Director of the Hygienic Institute, Royal University, Budapest.

APPROVED BY THE ACADÉMIE DE MÉDECINE, PARIS.

The LANCET says: "Its composition is constant."

The BRITISH MEDICAL JOURNAL says: "A most useful Aperient."

The PRACTITIONER says: "An ideal purgative."

"An excellent, very active purgative."

Dr. E. LANCEREAUX,
Professeur à la Faculté de Médecine, Paris;
Médecin honoraire des Hôpitaux;
Membre de l'Académie de Médecine.

"The water is constant in its composition."

Dr. G. POUCHET,
Professor of Pharmacology in the Faculty of Medicine of Paris.

"Its use does not give rise to subsequent constipation."

Professor W. S. BOGOSLOWSKY,
Director of the Pharmacological Institute of the Moscow University.

SOLE IMPORTERS:

THE APOLLINARIS COMPANY, Ltd., LONDON, W.

Ideal Milk

IDEAL MILK
TRADE MARK REGISTERED.
ENRICHED WITH CREAM.
STERILIZED NOT SWEETENED

(PRESERVED WITHOUT SUGAR.)

Prepared by the

Anglo-Swiss Condensed Milk Co.,

Makers of the

World-Famous

MILKMAID

Brand.

IDEAL MILK is pure UNSWEETENED Condensed Milk, preserved solely by sterilizing, and is absolutely free from chemical or other preservative.

IDEAL MILK is enriched 20 per cent. by the addition of pure cream, and is therefore exceptionally nutritious.

IDEAL MILK is superior to any sterilized milk yet produced, in richness, in flavour, and in the retention of all the qualities of fresh milk.

IDEAL MILK is a safe and valuable food for infants and invalids, and serviceable for all household purposes.

Milk with these qualities requires no further commendation. Try Ideal Milk and recommend it to your friends.

ASK YOUR GROCER FOR IT.

“THE LANCET” on

VAN HOUTEN’S COCOA.

“In a recent analysis
“ which we have made, the results
“ distinctly indicate the advantage of
“ VAN HOUTEN’S PROCESS of manu-
“ facture. Thus *this* Cocoa yields
“ a decoction containing a maximum
“ proportion of the valuable food
“ constituents of the bean, and what
“ is of *more importance still,* these
“ are presented in a condition more
“ easy of assimilation and digestion
“ than in Cocoa not so prepared.”

TELEPHONE No. 3511.

ENGLISH AND FOREIGN PHARMACY.

FIVE WAYS, EDGBASTON, BIRMINGHAM.

T. CHASE,

PHARMACEUTICAL CHEMIST.

The strictest accuracy and attention given to the Dispensing of Medicines.
Drugs, Chemicals, and Pharmaceutical Preparations of the highest quality.
Foreign Prescriptions are dispensed in strict accordance with the Pharmacopœias of their respective countries. As new Chemicals and Pharmaceutical Preparations are introduced, they will be added to the stock.

Technical Analyses of all kinds conducted.

Every Description of Aerated and Mineral Waters.

Gold Medals, Paris, 1878 : 1889.

JOSEPH GILLOTT'S

Of Highest Quality, and Having
Greatest Durability are Therefore
CHEAPEST.

PENS

Where **Pain** is a prominent sympton, AK is a desideratum; its province is relief of Pain in every and any form. Best of all, there is no danger of Morphinism, no Nausea, no Malaise so common with opium.

Will not Depress the Heart.

NO DRUG HABIT INDUCED — NO TOXIC EFFECT.

Antikamnia

OPPOSED TO PAIN.

Analgesic. Antipyretic. Anodyne.

WINTER COUGHS.

In acute attack of laryngeal or winter cough, tickling and irritability of larynx, **Antikamnia & Codeine Tablets** are excedingly trustworthy. If the irritation or spasm prevails at night, the patient should take a 5-gr. tablet containing 4¾-gr. Antikamnia, and ¼-gr. Sulphate Codeine, an hour before retiring and repeat hourly until the irritation is allayed.

Antikamnia (finely powdered).
Antikamnia Tablets (Five Grains each).
Antikamnia Laxative Tablets.
Antikamnia & Codeine Tablets.
Antikamnia & Salol Tablets.
Antikamnia & Quinine Tablets.
Antikamnia & Quin. Laxative Tablets.
Antikamnia Quin. & Salol Tablets.

Marketed in one ounce packages only, price for dispensing purposes, **3/10** post free.
NEVER IN BULK. ALL TABLETS MONOGRAMMED.

THE ANTIKAMNIA CHEMICAL CO.,
46, Holborn Viaduct, E.C

CHELTINE ANÆMIC FOOD.

Specially prepared for all suffering from any form of Anæmia. It is not intended as a supplanter of Medical treatment but as a supplement to it. It is compounded of valuable food products, containing a small proportion of Mineral Salts. The iron is in the form of a natural organic compound, and is therefore non-astringent and easily assimilated. It does not decompose in the mouth, and therefore will not discolour the teeth. It does not cause headache nor derange the digestive organs. Cheltine Anæmic Food is an unique preparation, extremely palatable, containing all the elements of a perfect Food. It will be found a valuable adjunct to the Medicinal treatment of Anæmic patients. In tins 1/- and 2/6 each. Write for a sample and particulars.

We are also Sole Manufacturers of "Cheltine" Diabetic Food, Dyspeptic Food, Invalids' Food, and Infants' Food.

WORTH'S FOODS SYNDICATE LTD., CHELTENHAM.

J. F. THORNEYWORK,

MANUFACTURER OF

Artificial Limbs, Trusses, Surgical Instruments,

ELASTIC STOCKINGS, KNEE CAPS, ABDOMINAL BELTS, &c.

33, JOHN BRIGHT STREET, BIRMINGHAM.

☞ Instrument Maker to the Birmingham Orthopædic Hospital, for the Cure of Bodily Deformities, Newhall Street; General and Queen's Hospitals; Dudley Dispensary; Stafford Infirmary; Cottage Hospital, Walsall; and Guest Hospital, Dudley.

DOWN BROS.'

Surgical Instruments
and Aseptic Hospital Furniture,

AWARDED

THE GRAND PRIX,

(HIGHEST POSSIBLE AWARD)

PARIS EXHIBITION, 1900.

Twentieth Century Edition new Illustrated Catalogue, 1200 pages now ready, issued to members of the Medical Profession on application.

DOWN BROS.,

Surgical Instrument Manufacturers,

21, St. THOMAS'S STREET (OPPOSITE GUY'S HOSPITAL),

LONDON, S.E.

FACTORY—King's Head Yard, Borough. **Telegraphic Address: "Down—London.**

Telephone, 965 "Hop."

NESTLÉ'S

CONDENSED SWISS MILK.

The Richest in Cream.

……

PERCENTAGE of BUTTER FAT.

Six Samples of **NESTLÉ'S MILK** bought at random at Six different Shops, and analysed by **Mr. OTTO HEHNER**, late President of the Society of Public Analysts, contained

AN AVERAGE OF

13·13 PER CENT. OF BUTTER FAT.

Sample Tin sent free to the Medical Profession on application to
HENRI NESTLÉ, 48, CANNON STREET, LONDON, E.C.

⁂ Messrs. NESTLÉ having obtained the GRAND PRIZE at the PARIS EXHIBITION in 1889, and being selected on the Grand Jury for the late Exhibition were debarred from entering their Goods for Competition.

ASHWOOD HOUSE, KINGSWINFORD

A PRIVATE ASYLUM FOR LADIES AND GENTLEMEN.

Proprietors:

HENRY GEORGE PEACOCK, L.R.C.P. Ed., M.R.C.S. Eng., L.S.A. Lond.,

Formerly Resident Medical Officer in charge of the Dorset County Asylum, Forston, and

JAMES F. G. PIETERSEN, L.R.C.P., Lond.; M.R.C.S., Eng.;

(*Late Senior Medical Officer, Camberwell House Asylum, London,*)

Late Bodington and Peacock, Co-Licensees.

ASHWOOD HOUSE is a large Mansion in the County of Stafford, close upon the borders of Worcestershire. It is very substantially built, and is situated upon an elevated spot, commanding extensive views. The Rooms are large, lofty, and cheerful, and the house, both inside and outside, has entirely the air and character of a gentleman's private residence. The soil is sand and gravel, has excellent natural drainage, and is very dry. The gardens and grounds, about forty acres in extent, are well planted with shrubs and ornamental timber, and are extremely picturesque. The climate is genial, and the locality notoriously healthy. The country around is secluded and quiet, and affords a great variety of beautiful walks and drives amidst very charming scenery.

The Patients associate with the family, and have every possible freedom allowed them consistent with safety.

Carriage exercise is provided for those Patients whose friends desire it. Suites of Private Apartments and Special Attendants may be engaged if desired.

There is a Billiard Room, and a very fine Tennis Lawn, together with a variety of other means of recreation and amusement. Books, Magazines, and Periodicals are provided.

Divine Service, conducted by the Vicar of Kingswinford, is held in the House every Sunday Afternoon.

This Asylum was formerly carried on at Driffold House, Sutton Coldfield, where, for thirty-six years, it was in the hands of Dr. Bodington and his father. The establishment, owing to the expiration of the lease of the premises, was removed to Ashwood House, in the year 1872.

STOURBRIDGE is the nearest Railway Station.

Postal Address:—

ASHWOOD HOUSE,
KINGSWINFORD, NEAR DUDLEY.

NOW READY. **PRICE 7/6 NET, Post Free.** **Subscribers have priority in delivery.**

NINETEENTH YEAR, 8vo, Cloth, about 900 pages.

Copiously Illustrated and with many Full-page Plates, some of which are finely Coloured.

THE MEDICAL ANNUAL, 1901,

And Year Book of Treatment. A Complete Work of Reference for Practitioners, alphabetically arranged, combining an Annual Retrospect, with a Medical Encyclopædia.

CONTRIBUTORS AND CONTRIBUTIONS.

Robt. Abbe, M.D., New York.
A. L. Fisk, M.D., NewYork. *Brain & Spinal Surgery.*
Herbert W. Allingham, F.R.C.S. *Rectal Surgery.*
Prof. E. A. Ayers, A M., M.D., N. York. *Obstetrics.*
J. Cantlie, M.A., M.B., F.R.C.S. *Tropical Diseases.*
Prof. Alfred H. Carter, M.D., F.R.C.P., Birmingham. *Heart Diseases*
Prof. Hy. Dwight Chapin, M.A., M.D., New York. *Pediatrics.*
J. E. Cooney, L.R.C.P., D P.H., Camb., of the Middle Temple, Barrister-at-Law. *Medico-Legal Decisions.*
F. Richardson Cross, M.B., F.R.C.S., Bristol. *Ophthalmology.*
F. W. Edridge-Green, M.D., late Member Internat. Code of Signals Com. *Colour Blindness, &c.*
E. Hurry Fenwick, F.R.C.S. *Urinary Surgery.*
T. Colcott Fox, B.A., F.R C P. *Skin Diseases.*
H. Bellamy Gardner, M.R.C.S., L R.C.P. *Anæsthesia.*
Arthur E. Giles, B.Sc., M.D., F.R.C.S. *Gynæcology.*
Edward W. Goodall, M.D. *Fevers.*
J. Dundas Grant, M.A., M.D., F.R.C.S. *Ear Diseases.*
Prof. Græme M. Hammond, A.M., M.D., New York. *Neurology.*
Robt. Jones, F.R C.S., Liverpool.
A. H. Tubby, M S., M.B. *Orthopædics.*
Priestley Leech, M.D., F.R.C.S., Halifax. *General Surgery.*
Prof. Hy. P. Loomis, M.D., New York. *Pulmonary Diseases.*
Prof Jos. M'Farland, M.D., Philadelphia *Toxins and Anti-Toxins.*
J. Macintyre, M B., C.M., Glasgow. *X-Ray Work.*
Chas F. Marshall, M.D., F.R.C.S. *Syphilis.*
W. Milligan, M.D, Manchester. *Nose and Throat.*
Keith W Monsarrat, F.R.C S., Liverpool. *Cancer.*
Wm. Murrell, M.D, F.R.C.P. *Therapeutics.*
Joseph Priestley, B.A., M.D., D.P.H. *Sanitary Science.*
Boardman Reed, M.D., Philadelphia *Stomach Disorders.*
Prof. C. Ruata, Perugia, Italy. *Pulmonary Tuberculosis.*
Prof. Robt. Saundby, M.D., F.R.C.P E., LL.D., Birmingham. *Renal and Urinary Diseases.*
Jas Shaw, M.D., Liverpool. *Insanity.*
Walter G. Spencer, M.S., F.R.C.S. *Abdominal Surgery.*
Jos. Geo. Turner, F.R C.S., L.D.S. *Dental and Oral Surgery.*

PRESS OPINIONS

"Of especial benefit to those in general practice—gives the most recent information—will often provide a suggestion for treatment at the moment it is needed."—*Lancet.*

"Have been surprised to learn how wide was its scope, and how exhaustive its contents. Have come to place very great reliance upon it."—*New York Med. Journ.*

"Of great utility to the practitioner—a trustworthy work of reference."—*Brit. Med. Journ.*

"The strong point is its markedly practical character."—*Intern. Med. Mag.*

"Nothing but praise can be awarded."—*Clin. Journ.*

"In every way a valuable book."—*Bristol Med. Journ.*

"No practitioner can read it without being amply repaid—helpful suggestions on every page."—*American Lancet.*

"A pleasure to recommend it."—*Johns Hopkins Hosp. Bull.*

"Were a practitioner so situated that he could buy but one volume in the year this should be the one."—*Chicago Clin. Rev.*

"Improves in its usefulness every year."—*Annals of Surg.*

"Gives just the essential statement with sufficient fulness for the practitioner's guidance."—*Med. Press & Circ.*

"Most acceptable to the busy doctor. Full from cover to cover of the most recent information, epitomised in such a manner as to be perused in a short time."—*Canadian Journ. of Med. and Surg.*

Bristol: JOHN WRIGHT & CO. London: SIMPKIN & CO. LTD.

STANDARD PUBLICATIONS.

HYGIENE AND PUBLIC HEALTH. By LOUIS C. PARKES, M.D., D.P.H. Lond. Univ., Lecturer on Public Health at St. George's Hospital Medical School, etc.; and HENRY R. KENWOOD, M B . D.P.H., F C S., Assistant Professor of Public Health at University College, London, etc. With 85 Illustrations. Pp. 732, crown 8vo, **12s.**

"There is no better text-book of Hygiene and Public Health in existence."- *Brit. Med. Journal.*

DISEASES OF THE NOSE AND THROAT. By F. DE HAVILLAND HALL, M D, F.R.C.P. Lond., Physician to the Westminster Hospital; and HERBERT TILLEY, M.D., B S. Lond F.R.C.S Eng , Surgeon to the Throat Hospital Golden Square. SECOND EDITION, thoroughly Revised and Enlarged. With 2 Plates and 80 Illustrations. crown 8vo, **10s. 6d.**

"As a handbook the volume as it stands at present is highly to be commended. As a text-book the work deserves a wide popularity."—*Lancet.*

HANDBOOK OF DISEASES OF THE EYE & THEIR TREATMENT. By HENRY R. SWANZY, A.M., M.B., F.R.C.S.I., Surgeon to the Royal Victoria Eye and Ear Hospital, and Ophthalmic Surgeon to the Adelaide Hospital, Dublin. SEVENTH EDITION. With 164 Illustrations, post 8vo, **12s. 6d.**

"It is a book to take out of your shelf and look at when you are in a difficulty, and it will not fail you."—*Edinburgh Medical Journal.*

A MANUAL OF GYNÆCOLOGICAL PRACTICE FOR STUDENTS and Practitioners. By Dr. A. DUHRSSEN, Professor of Midwifery and Gynæcology in the University of Berlin. Translated and Edited from the SIXTH GERMAN EDITION by JOHN W. TAYLOR, F.R.C.S , Professor of Gynæcology, Mason College, Birmingham, etc., and FREDERICK EDGE, M.D., Lond., M.R C.P., F.R.C.S., Surgeon to the Wolverhampton and District Hospital for Women. SECOND ENGLISH EDITION, Enlarged, with 125 Illustrations, crown 8vo, **6s.**

"The very best book of its size in the English language."—*British Gynæcological Journal.*

BY THE SAME AUTHOR AND TRANSLATORS.

A MANUAL OF OBSTETRIC PRACTICE FOR STUDENTS AND Practitioners. Translated and Edited from the SIXTH GERMAN EDITION. With numerous Illustrations, crown 8vo, **6s.**

"Can be read with interest and profit, alike by the student, the general practitioner, and the obstetric specialist."—*Dublin Journal of Med. Science.*

MEDICAL ELECTRICITY, A Practical Handbook for Students and Practitioners. By H. LEWIS JONES, M.A., M.D., F.R.C.P., Medical Officer in charge of the Electrical Department in St. Bartholomew's Hospital. THIRD EDITION, thoroughly Revised, with 117 Illustrations, crown 8vo. **10s. 6d.**

"An admirable text-book for students and a handy book of reference for practitioners."—*Lancet.*

WHAT TO DO IN CASES OF POISONING. BY WILLIAM MURRELL. M.D., F.R.C.P., Physician to, and Lecturer on Clinical Medicine and Joint-Lecturer on The Principles and Practice of Medicine at, the Westminster Hospital; Examiner in Materia Medica in the University of Glasgow, etc. NINTH EDITION. Royal 32mo, **3s. 6d.**

"An excellent and useful little book."—*Lancet.*

⁂ Complete Catalogue of Mr. Lewis's Publications post free on application.

London: H. K. LEWIS, 136, Gower Street, W.C

Scottish Provident Institution.

Table of Premiums by Life and Limited Payment,

For Assurance of £1000 at Death-with Profits.

Age next Birth-day.	Annual Premium payable during Life.	ANNUAL PREMIUM LIMITED TO			Age next Birth-day.
		25 Payments.	**20** Payments.	**15** Payments.	
21	£18 2 6	£24 8 4	£27 13 4	£33 5 10	21
22	18 7 6	24 12 6	27 17 6	33 11 8	22
23	18 11 8	24 15 10	28 1 8	33 15 10	23
24	18 15 10	24 19 2	28 5 0	34 0 0	24
25	19 0 0	25 1 8	28 8 4	34 4 2	25
26	19 5 0	25 5 0	28 12 6	34 9 2	26
27	19 11 8	25 10 0	28 18 4	34 15 10	27
28	19 19 2	25 15 10	29 4 2	35 3 4	28
29	20 6 8	26 2 6	29 11 8	35 11 8	29
30	20 15 0	26 10 0	29 19 2	36 0 10	30
31	21 5 0	26 17 6	30 7 6	36 10 10	31
32	21 14 2	27 6 8	30 17 6	37 1 8	32
33	22 5 0	27 15 10	31 7 6	37 14 2	33
34	22 15 10	28 6 8	31 18 4	38 6 8	34
35	23 8 4	28 17 6	32 10 0	39 0 0	35
36	24 1 8	29 10 0	33 2 6	39 15 0	36
37	24 16 8	30 2 6	33 15 10	40 10 0	37
38	25 12 6	30 15 10	34 9 2	41 4 2	38
39	26 9 2	31 10 0	35 4 2	42 0 0	39
40	27 7 6	32 5 0	35 19 2	42 16 8	40
41	28 6 8	33 0 10	36 15 10	43 15 0	41
42	29 6 8	33 18 4	37 13 4	44 14 2	42
43	30 9 2	34 16 8	38 12 6	45 15 0	43
44	31 12 6	35 17 6	39 13 4	46 16 8	44
45	32 17 6	37 0 0	40 15 10	48 1 8	45
46	34 4 2	38 5 0	42 0 10	49 7 6	46
47	35 14 2	39 11 8	43 7 6	50 16 8	47
48	37 6 8	41 0 10	44 17 6	52 8 4	48
49	39 0 10	42 12 6	46 9 2	54 1 8	49
50	40 15 10	44 5 10	48 2 6	55 16 8	50

The non-profit rates of other Offices differ little from these Premiums, so that persons who assure with them throw away the prospect of additions from the profits without any compensating advantages.

PAID-UP POLICIES.

Under all Limited Payment and Endowment Tables the Assured, on discontinuing payments, may obtain a paid-up policy for such proportion of the sum originally assured as the number of premiums paid bears to the number payable.

GUARANTEE INVESTMENT.

Particulars may be had on application of a SCHEME under which there is *guaranteed* an INCOME DURING LIFE equivalent in many cases to about 3 per cent. per annum on amount invested, along with a PAID-UP POLICY OF ASSURANCE to return at death the amount of the Capital, with such profits as may be added.

Annuities and Endowments on favourable terms. Rates and Proposal Forms on application to

BIRMINGHAM OFFICE:—95, COLMORE ROW.

Advertisement continued on back of Cover.

MUTUAL ASSURANCE WITH MODERATE PREMIUMS.

Scottish Provident Institution.

BIRMINGHAM OFFICE—95, COLMORE ROW.

ECONOMY—EQUITY—SECURITY.

THIS SOCIETY differs in its principles from other Offices. Its terms are specially adapted to the requirements of Medical Men and others whose Income is dependent on continuance of health.

INSTEAD of charging rates higher than are necessary, and afterwards returning the excess in the shape of periodical Bonuses, it gives from the first as large an Assurance as the Premiums will with safety bear, reserving the *whole Surplus for those Members who survive the period at which their premiums, with compound interest at 4 per cent. amount to the sums assured*—no share being given to those by whose earlier death there is actual *loss* to the Common Fund.

The WHOLE PROFITS go to the Policyholders, on the above system which is at once safe, equitable, and favourable to good lives. The SEVENTH SEPTENNIAL INVESTIGATION showed a SURPLUS of £1,423,018 which, after reserving £391,796 for future division, was divided among 13,220 Policies entitled. The first Bonuses ranged from 15 and 18 to upwards of 30 per cent. on Sums Assured.

The next Division of Profits will be made at 31st December, 1901,

FUNDS OVER £11,500,000.

The PREMIUMS are so moderate that at most ages an assurance of £1200 or £1250 may be secured from the first for the same yearly payment which would generally elsewhere assure (with profits) £1000 only,—the difference being equivalent to an immediate and certain "Bonus" of 20 to 25 per cent.

Annual Premiums for £100 at Death (with Profits).

AGE NEXT BIRTHDAY ...	25	*30	35	40	45	50
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Payable during Life	1 18 0	2 1 6	2 6 10	2 14 9	3 5 9	4 1 7
Limited to 25 Payments ...	2 10 2	2 13 0	2 17 9	3 4 6	3 14 0	4 8 7

* Thus a person of 30 may secure £1,000 at death by a yearly payment, *during life*, of £20. 15s. This Premium, in any other of the Scottish Mutual Offices, would secure **£800** only, instead of **£1,000.** The without profit rates of other Offices *differ little from these*, so that Assurers with them virtually *throw away the prospect of additions without any compensating advantage.*

Or, if unwilling to burden himself with payments during whole life, he may secure the same £1,000 by *twenty-five* yearly payments of £26. 10s.—*being thus relieved from payment at a comparatively early age.*

ENDOWMENT ASSURANCES with guaranteed rates of bonus are now issued on very favourable terms, and will be found specially suitable to those requiring the use of the sum assured during advanced age.

Reports, with full information, and Proposal Forms may be had on application to the Midland Branch

95, Colmore Row, Birmingham GEO. A. PANTON, *Res. Secretary.*

See also inside cover.

Vol. XLIX. No. 274. JUNE, 1901. *Price Sixpence.*

A.E.

THE
Birmingham Medical Review:

A MONTHLY JOURNAL OF THE MEDICAL SCIENCES.

64 pp. Price 6/- per annum, post free.

LONDON HOSPITAL
MAR 23 1902
LIBRARY

DOUGLAS STANLEY, M.D. EDIN., M.R.C.P.

AND

JAS. W. RUSSELL, M.D. CANTAB., M.R.C.P.

Assisted by the following Editorial Committee:—

bert Barling, M.B., F.R.C.S.
Langley Browne, F.R.C.S.
l M. Chapman, M.D., F.R.C.P.
Charnley, M.D.
Hazelwood Clayton, M.B.
Collier, M.D. F.R.C.P.
nry Eales, M.R.C.S.
ed. Edge, M.D., F.R.C.S., M.R.C.P.
thur Foxwell, M.D., F.R.C.P.
W. Foxcroft, M.D.
onard Gamgee, F.R.C.S.
M. Haig, M.D.
F. Haslam, F.R.C.S.
o. Heaton, M.B. F.R.C.S.
Bostock Hill, M.D.
F. Jordan, M.B., F.R.C.S.
O. J. Kauffmann, M.D., M.R.C.P.
C. J. Lewis, M.D.
Jordan Lloyd, M.B., F.R.C.S.
Albert Lucas, F.R.C.S.
C. A. MacMunn, M.D.
H. Manley, M.B.
Frank Marsh, F.R.C.S.
Christopher Martin, M.B., F.R.C.S.
Bennett May, M.B., F.R.C.S.
J. T. J. Morrison, M.B., F.R.C.S.
E. N. Nason, M.B.
Lloyd Owen, F.R.C.S.I.
J. Pietersen, L.R.C.P., M.R.C.S.
C. E. Purslow, M.D., M.R.C.P.
Guthrie Rankin, M.D., F.R.C.P.
J. R. Ratcliffe, M.B.
Edwin Rickards, M.B., F.R.C.P.
Sir James Sawyer, M.D., F.R.C.P.
Robt. Saundby, M.D., LL.D., F.R.C.P.
T. Sydney Short, M.D., M.R.C.P.
Robert M. Simon, M.D., F.R.C.P.
J. Lionel Stretton, L.R.C.P., M.R.C.S.
C. W. Suckling, M.D., M.R.C.P.
John W. Taylor, F.R.C.S.
Wm. Thomas, M.B., F.R.C.S.
Thos. W. Thursfield, M.D., F.R.C.P.
T. Law Webb, L.R.C.P., M.R.C.S.
E. Wood White, M.D.
T. Stacey Wilson, M.D., M.R.C.P.
Thos. Wilson, M.D., F.R.C.S.
Wright Wilson, F.R.C.S., Ed.

CONTENTS:

Original Communications.

The Lower Uterine Segment and the Contraction Ring. By W. J. Smyly, M.D., F.R.C.P. and S.I. 321
The Blood, from a Clinical Aspect. By J. G. Emanuel, M.B., B.S., B.Sc. ... 337

Reports of Cases.

A Case of Suppression of Urine. By L. S. Tomkys, L.R.C.P., M.R.C.S. and James W. Russell, M.D., M.R.C.P.... 361
Note on a Case of Double Intestinal Anastomosis for Double Artificial Anus in the Small Intestine. By Gilbert Barling, M.B., F.R.C.S. 365

Reviews of Books.

Oliver's Contribution to the Study of the Blood and Blood Pressure 368
Potter's Handbook of Materia Medica, Pharmacy and Therapeutics 371
Colbeck, Diseases of the Heart 372
Kelynack and Kirkby on Arsenical Poisoning in Beer-Drinkers 374
Saunder's Yearbook of Medicine and Surgery 376
Salinger and Kalteyer's Modern Surgery 377
Stoney, Practical Points in Nursing ... 378
Stengel's Text-Book of Pathology ... 379

New Books, etc., Received 380

LONDON:
H. K. LEWIS, 136, GOWER STREET, W.C.
BIRMINGHAM:
HALL & ENGLISH, 36, UNION STREET.
Entered at Stationers' Hall.

New Galenical Preparations.

Unguentum Ranunculi Ficariæ—
Pilewort Ointment—prepared according to the formula of Sir James Sawyer, M.D., and as recommended by him in the treatment of Hæmorrhoids.

Caffeinæ Hydrobromidum Effervescenes, B.P.C.F.—
containing 4 per cent. of *Caffeine Hydrobromide.*

Elixir Aletridis, B.P.C.F.—
One fluid drachm contains the active constituents of 15 grains of the rhizome of *Aletris Farinosa.*

Elixir Guaranæ, B.P.C.F.—
An elegant preparation containing the soluble portion of 25 per cent. of *Guarana.*

Extractum Damianæ Liquidum, B.P.C.F.—
One fluid drachm contains the soluble matter of 60 grains of the leaves of *Turnera Aphrodisiaca.*

Hydrastinum, B.P.C.F.—
A dried alcoholic extract of the rhizome of *Hydrastis Canadensis,* consisting largely of the alkaloids Berberine and Hydrastine.

Phenazonum Effervescens, B.P.C.F.—
containing 8 per cent. of Antipyrin.

Syrupus Glycerophosphatum Compositum, B.P.C.F.—
containing Glycerophosphates with Caffeinæ and Strychnine.

Tinctura Strophanthi—
Standardized by Barclay's method, guaranteed to contain 0·20 per cent. of the Glucoside Strophanthin.

Physicians' samples of any of above supplied gratis.

T. & W. & W. SOUTHALL,
Manufacturing Pharmaceutical Chemists,
BIRMINGHAM.

The novel shape makes insertion easy and prevents expulsion. The improved method of manufacture ensures accurate dosage and even diffusion of active principles.

TRADE MARK **'Enule'** BRAND

◇ ◇ ◇ ◇ ◇ Rectal Suppositories

ARE perfectly preserved from contamination or deterioration until the moment of use by the hermetically-sealed sheath of pure tin foil in which each is enclosed. This sheath can be instantly stripped off, as shown below.

The list includes 'Enule' Brand Belladonna Extract, gr. 1/4, gr. 1/2, and gr. 1; Bismuth Subgallate, gr. 10; Cocaine Hydrochlor., gr. 1/2; Glycerin (95 %) Children's and Adults'; 'Hazeline' Compound; Lead and Opium; Meat (Predigested); Milk (Predigested); Morphine Hydrochlor., gr. 1/4, gr. 1/2, and gr. 1; Opium Extract, gr. 1; Santonin, gr. 3.

Burroughs Wellcome & Co., LONDON & SYDNEY.

[COPYRIGHT] F 140

BULLOCK'S PEPSINA PORCI.
DOSE—2 to 4 grains.

ACID GLYCERINE OF PEPSINE
(BULLOCK).
DOSE—1 to 2 drms.

In this preparation advantage has been taken of the solubility of Pepsine in Glycerine to produce a convenient and desirable *liquid form* of this valuable medicine; whilst the preservative qualities of the menstruum confer upon the Acid Glycerine of Pepsine the property of keeping for any length of time.

May be prescribed with most substances compatible with acids.
In 4 oz., 8 oz., and 16 oz. Bottles, and in bulk.

The published experiments of G. F. DOWDESWELL, Esq., M.A., Cantab., F.C.S. F.L.S., &c.; Dr. PAVY. Professor TUSON, the late Professor GARROD, Dr. ARNOLD LEES, and others, conclusively demonstrate the excellence, high digestive power and medicinal value of the above preparations.

⁂ *In prescribing the above Preparations it is suggested to insert in parentheses as follows:—(BULLOCK).*

J. L. BULLOCK & CO.,
3, HANOVER STREET, HANOVER SQUARE, LONDON, W.

THE MOAT HOUSE, TAMWORTH, STAFFORDSHIRE.
STATIONS L. & N. WEST. and MID. RAILWAYS
A HOME FOR NERVOUS AND MENTAL CASES.

The House stands in grounds of ten acres (within 5 minutes' drive of either station), and is devoted to the care and treatment of a few Ladies suffering from nervous and mental disorders, who enjoy the comforts, privacy and occupations of home life. Voluntary patients are received without certificates.

For terms, etc., apply to the Resident Proprietor E. HOLLINS, M.A., Camb., J.P.